

Herald INTERNATIONAL Tribune

Published With The New York Times and The Washington Post

PARIS, WEDNESDAY, MARCH 16, 1988

ESTABLISHED 1887

10,000 March in Hungary

Demonstration Follows Arrests of 4 Dissidents

BUDAPEST — More than 10,000 people marched here Tuesday, chanting "Democracy" and demanding reforms. It was believed to be the biggest unofficial demonstration in Hungary since 1956.

The police made no attempt to obstruct the march. It took place only hours after at least four leading members of the opposition were arrested on subversion charges in a series of dawn raids, an underground publisher said.

The publisher, Ferenc Kocszeg, said the four were Gabor Demszky, also a dissident publisher, Tamas Molnar, Otilia Solt, a sociologist, and Miklos Haraszti, a writer.

Gyorgy Gado, a leading speaker at a smaller event last year, was also missing and was thought to have been arrested, dissidents said.

On the 14th anniversary of the day when the poet Sandor Petofi led a rebellion against Austrian rule, demonstrators crammed the square by the parliament building in Pest to cheer at calls for freedom and national independence.

"In 1848, 1918 and 1956, we tried to achieve the aims of freedom, equality, independence and a place in the community of civilized nations," a dissident philosopher, Gaspar Miklos Tamas, told the protesters, many of whom wore cockades in the Hungarian colors, red, white and green. "We are still far from these aims."

Apparently referring to Janos Kadar, 75, who has led Hungary since the uprising quashed by Soviet tanks in 1956, Mr. Tamas said: "Leaders who have lost the confidence of the people should resign."

The crowd carried banners with slogans such as "Press Freedom," "Real Reforms" and "Freedom of Assembly," and draped them around statues along the way.

A similar march last March 15, in which 2,000 to 3,000 Hungarians took part, was the first time since 1956 that the authorities had tolerated such an open expression of dissent.

The authorities have opposed an application by 150 journalists and 50 academics to set up a "Glasnost Club" to improve public information, and several independent publishers have been raided in the past two weeks.

300 Protest in Leipzig

About 300 protesters, defying police orders, formed a human chain and marched late Monday through central Leipzig, East Germany, demanding greater freedom. The Associated Press reported Tuesday, quoting witnesses.

Kiosk

U.S. Presses For Contra Aid

The Associated Press

WASHINGTON — White House officials, pushing for new aid to the Nicaraguan rebels, told congressional leaders on Tuesday that the Sandinist government was preparing its troops for "an all-out death blow" against the weakening Contras, spokesman Martin Fitzwater said.

Diego Corboz, the UN mediator, said the Afghan peace talks have run into a serious problem. Page 2.

General News

U.S. airline fares begin to increase as many discount fares cease. Page 4.

Business/Finance

First Republic Bank Corp. of Texas said it would seek federal assistance. Page 13.

Dow Jones	1,877
DM	1.8456
Yen	127.40
FF	5.674

U.S. Says New Uranium-Based Tank Armor Is Impenetrable

By George C. Wilson
Washington Post Service

WASHINGTON — The United States has developed a tank armor made from a uranium by-product and impervious to any Soviet anti-tank weapon, the Pentagon said Monday.

The officials said that, beginning in October, new M-1 Abrams tanks will be equipped with the armor made from a mesh of "depleted" uranium encased in steel. The armor is 2.5 times as dense as steel.

Pentagon officials estimated it would take the Soviet Union "almost a decade" to duplicate the new armor plate.

"It's really a major advance," said Fred S. Hoffman, a Pentagon spokesman, in summarizing the secret briefings he received on the new armor.

Not only will the mesh of depleted uranium encased in steel stop the Soviet anti-tank missiles in use today, Pentagon officials said, but it also cannot be penetrated by those known to be under development. The new armor is likely to encourage Soviet development of new anti-tank weapons, perhaps using depleted uranium shells.

The reported advance in armor plate comes at the time when the Reagan administration is trying to assure its allies in the North Atlantic Treaty Organization that the United States will upgrade its conventional defenses as short- and medium-range nuclear missiles are withdrawn from Europe under the Intermediate-Range Nuclear Forces Treaty.

Pentagon officials said the development of the armor is evidence of the soundness of the U.S. strategy of offsetting the superior numerical strength of Warsaw Pact troops with higher quality weapons.



DEFENSE PARLEY — Frank C. Carlucci, the U.S. defense secretary, right, meeting his Soviet counterpart, Dmitri T. Yazov, left, in Bern on Tuesday as Arnold Koller, the Swiss military chief, welcomes the two. Mr. Carlucci said if Moscow is seeking a defensive doctrine, it should cut its production of tanks. But he said that Soviet tanks "continue to pour out."

Depleted uranium, essentially what is left over after uranium is turned into an enriched product for weapons or nuclear reactors, gives off radiation in such small amounts that it endangers nothing, the Pentagon said. The army started briefing factory workers Monday and issued statements to the news media in an effort to avoid environmental backlash against the armor.

They conceded that some of the European countries where the tanks will be based were afraid of the radiation, but the officials said they have allayed those worries. The army does not intend to issue an environmental impact statement on the use of depleted uranium on M-1 tanks, according to Major Phil Soucy, an army spokesman because, he said, the army is not required to.

While depleted uranium has a low level of natural radiation, the Pentagon said, "our tests have confirmed that this material as installed in the Abrams will involve no appreciable health threat. You would receive less radiation sitting on the surface of that tank than you would receive when flying during a trans-Atlantic flight. Because of this low exposure, no special precautions are required when near the tank."

Major Soucy said the army is fabricating the depleted uranium components at classified facilities under a license issued by the Nuclear Regulatory Commission. The armor plating and parts will arrive at General Dynamics plants in Detroit and Lima, Ohio, with the depleted uranium mesh already encased in steel.

The Pentagon would not reveal how much the armor would add to the cost of the M-1 tanks, which now cost \$2.6 million each. It said the armor would add some weight to the tank but not enough to keep it from achieving its maximum speed of 42 miles an hour (about 70 kilometers an hour). The army has installed a speed regulator to prevent drivers from exceeding that speed.

The army already has bought about 1,500 Abrams M-1 tanks. It plans to put the depleted uranium armor on the next 3,000 produced but will not refit existing tanks.

The first M-1 tanks with the depleted uranium armor will arrive in Europe "late this year," the Pentagon said. The Pentagon would not disclose how many of these tanks are destined to go to Europe or what countries would receive them. It said there are about 2,500 versions of M-1 tanks in Europe and that they probably would be replaced eventually with the more survivable versions.

Japan's Accounting Deadline Casts Shadow on U.S. Markets

By Anise C. Wallace
New York Times Service

NEW YORK — A March 31 accounting deadline in Japan could put added pressure on financial markets in the United States in coming weeks.

Almost half of Japanese corporations and the government itself will close their books on March 31, the final day of their fiscal year. In preparation for that event, these large buyers of U.S. stocks and bonds are slowing their purchases. And as early as Friday, some of these investors will be prohibited from buying securities until the new fiscal year.

But most important, the approaching deadline has put an artificial prop under the dollar-yen relationship, analysts say. That means the value of the dollar against the yen could decline after March 31, causing many Japanese investors to bail out of the American markets for fear that their investments would be eroded.

The dollar has been supported against the yen because of a new accounting technicality in Japan. This year, Japanese life insurance companies will be required to recognize any currency losses of 15 percent or greater.

Specifically, if the rate has changed 15 percent or more from the April 1, 1987 level of 1 dollar to 148 yen, these investors, who control hundreds of billions of dollars, will be required to record their investment losses.

That means that if the dollar-yen rate falls below 127, the "magic number," these investors will either be required to report their losses or

sell stocks and bonds to avoid reporting them.

As a result, investors suspect that the Japanese government and the life insurance companies have been heavy buyers of the dollar in the past week. Bond traders say that a steady dollar rate for the time being is preferable to reporting losses or dumping securities, which could hurt the value of all investments.

"They're trying desperately to keep it above 127," said Donald M. Krueger, director of Japanese research at Wertheim, Schroeder & Co. in New York. In trading Monday in New York, the dollar fell slightly below 127, to close at 126.85 yen.

If Japanese investors have indeed been propping up the dollar, what happens when they stop? On April 1, the start of the new fiscal year, Japanese institutional investors will no longer be as concerned about maintaining that dollar-yen relationship.

Will they stop supporting the dollar, which could lead to a serious plunge? Will they sell the U.S. stocks and bonds in which they have losses once they no longer

have to worry about reporting such losses? "Nobody knows the answer," Mr. Krueger said.

Investors in the U.S. Treasury bond market are especially nervous. Japanese institutions are said to buy as much as 30 to 40 percent of the paper at Treasury auctions. Last April, when interest rates rose, Japanese investors walked away from the Treasury market and this helped send it into a tailspin, traders said.

Some investors in the United States said they had heard that the Japanese government had informed insurance company executives that for purposes of calculating the 15 percent loss, it would not use the yen-dollar rate as of March 31. Instead the government will use the average yen-dollar rate for the month of March. That means the support could last all month and the magic number might not necessarily be 127.

A Cabinet Feud Spices British Tax-Cut Budget

By Howell Raines
New York Times Service

LONDON — Britain's annual Budget Day, always a time of suspense in the House of Commons, arrived with an extra filip of drama this year because of a feud between Prime Minister Margaret Thatcher and her chancellor of the exchequer, Nigel Lawson.

In a rowdy session, Mr. Lawson announced a dramatic income-tax simplification plan. It reduces the number of rates in Britain's complex tax code from six to two. It also awards the most affluent Britons a cut of 20 percentage points.

Under the new system, the basic income tax rate will fall to 25 percent from 27 percent, and the top rate will fall from 60 percent to 40 percent. Intermediate tax brackets of 45, 50, and 55 percent for high earners will be eliminated.

The new 40-percent top rate will apply to people making more than £20,000 (\$35,700). Under the old system, the top rate of 60 percent applied in people making more than the equivalent of \$72,600.

There is no question that Mr. Lawson and Mrs. Thatcher are in full agreement on what he called his "radical tax-reforming budget." But this fact was almost overshadowed by uncertainty over whether an unresolved dispute with the prime minister over monetary policy could lead to his resignation.

soon after submitting a budget intended to place him in the first rank of postwar chancellors.

As architect of five previous Thatcher budgets, Mr. Lawson has won a reputation as a budgetary genius for his ability to cut taxes while reducing inflation to its present 3.5 percent and giving Britain its first balanced budget in almost two decades.

But he has also established himself as the only member of the Thatcher Cabinet willing to stand up to Mrs. Thatcher. Now, there is a question of whether Downing Street, where they live in adjoining government townhouses, is big enough for both the prime minister and the second-most powerful figure in her government.

Since last Thursday, Thatcher and Lawson aides have been engaged in a battle of leaks over who would have control over monetary policy, a question brought to a head when the pound surged against the dollar and mark.

In the House of Commons last week, Mrs. Thatcher rejected intervention in the markets, through selling pounds or reducing interest rates, as a way of making the pound less attractive to investors and speculators. This was widely interpreted as a slap at Mr. Lawson, who favors an informal policy of

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Arabs Go on Strike

Palestinian Move Paralyzes Gaza And West Bank

By Alan Cowell
New York Times Service

JERUSALEM — A general strike by Palestinians who are protesting Israeli occupation paralyzed the West Bank and the Gaza Strip on Tuesday, and two Palestinians were reported killed in a continuing revolt.

At least 88 Palestinians have been killed in an uprising that started on Dec. 9 and that in recent days has elicited increasing collective punishment of Palestinians for participating in various forms of protest.

In Washington, Secretary of State George F. Shultz said he had been unable to bridge differences with Prime Minister Yitzhak Shamir of Israel over a U.S. plan for opening Middle East peace negotiations by May 1. The Associated Press reported.

But Mr. Shultz said that the first of three days of talks with Mr. Shamir had been constructive. "We feel encouraged to continue our efforts to work with Israel and others in the Middle East," he said.

An Israeli military spokesman said Tuesday that a 10 P.M.-to-3 A.M. curfew on all 650,000 residents of the Gaza Strip, decreed Monday, would again be enforced.

"It will continue until there's a notice to the contrary," the spokesman said. The curfew was ordered after hundreds of Palestinians serving with the Israeli police in the occupied territories resigned in response to a demand from the shadowy, underground leadership of the revolt.

Additionally, Israeli authorities have ordered what seem to be economic sanctions against Palestinian unions, including a halt in fuel supplies to the West Bank.

At the same time, the authorities have instituted new procedures, forcing Palestinians to seek permits to travel between the two chunks of occupied territories.

Most of the 60,000 laborers in the Gaza Strip who usually work in Israel stayed home on Tuesday. Public transportation in many parts of the occupied territories came to a halt and, in scattered and sporadic violence, army patrols fought battles with protesters.

A military spokesman said that two persons had been shot and killed, but he added that the army was checking if the two Palestinians were killed by troops.

Further clashes erupted in the northern West Bank Palestinian settlement of Qalqilya. Military

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'87 U.S. Trade Deficit Surged to \$160 Billion

Compiled by Our Staff From Dispatches

WASHINGTON — The deficit in the broadest measure of U.S. foreign trade grew to a record \$160.7 billion in 1987, although the shortfall in the fourth quarter was slightly narrower than in the third, the government reported Tuesday.

The Commerce Department said the current-account deficit was 13.7 percent bigger last year than the previous record of \$14.4 billion set in 1986.

Current account covers the flow of merchandise across the U.S. border as well as the flow of services, primarily investment earnings, between countries.

The 1987 figures confirmed the nation's status as the world's leading debtor country. Being a net debtor means that foreigners own more in U.S. investments than Americans hold in foreign investments.

Private economists estimated Tuesday that the United States now owes \$400 billion more to the rest of the world more than it is

owed by other countries. That figure is greater than the combined debt of the next three largest debtor nations, Canada, Brazil and Mexico.

The only bright spot in the 1987 current account was a narrowing in the deficit in the fourth quarter, in \$39 billion, from \$43.4 billion in the third quarter.

The Commerce Department said that the value of service transactions alone shifted in the last quarter to net receipts of \$5.59 billion from net payments of \$152 million in the third. The third-quarter figure was a revision from the previously reported net payment level of \$615 million.

The department said the shift in services resulted from a surge in income from direct U.S. investment abroad, largely reflecting capital gains due to the decline in the value of the dollar, especially against the yen and Deutsche mark.

The narrowing of the fourth-quarter deficit also reflected a smaller shortfall in merchandise trade.

Although the United States has run deficits in merchandise trade for 16 of the past 17 years, the current account was in surplus as earnings as 1981 as Americans' earnings on overseas investments were enough to offset the merchandise deficits.

But since that time Americans have handed over billions of dollars to foreigners in exchange for imported goods. With all of that wealth now in foreign hands, the perennial advantage the United States has had in investments has shifted.

The United States, which had last been a net debtor in 1914, regained that status in 1985 with a total foreign debt of \$111.9 billion. That debt grew to \$263.6 billion at the end of 1986.

Although economists estimated the new total at \$400 billion, the

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In Niger, West Works to Hold Line Against Libya

By James Brooke
New York Times Service

NIAMEY, Niger — A mile-long U.S. built airstrip in the Sahara and an \$8-million Libyan People's Bureau rising in this capital symbolize new jockeying for influence in Niger, in the middle of West Africa.

For over a decade, the United States and France bolstered the defenses of this thinly populated desert land, hoping to block expansion by Libya, a northern neighbor of Niger. The effort paid off last year, when Niger's neutrality gave neighboring Chad a free hand to expel a Libyan occupation army.

In contrast, Libya has become the prime arms supplier for the Sudan, on Chad's eastern flank. The Sudan is now a major launching area for Libyan attacks on Chad. Last week, in the largest clash since Chad and Libya accepted a cease-fire in

September, Chadian troops reportedly killed 20 Libyan soldiers who had entered Chad from the Sudan.

Western complaints about Niger dissolved Nov. 10 when Seyni Kountché, Niger's president for 13 years, died of a brain tumor in Paris. Over the years, President Kountché had compiled a list of complaints against Libya's leader, Colonel Muammar Gadhafi.

In the 1980s, Libya broadcast appeals, inciting Niger's Tuareg and Hausa tribesmen to revolt. At the time Abdoulaye Diour, the eldest son of a deposed president of Niger, lived in Tripoli where he reportedly headed a Libyan-financed exile group, the Popular Front for the Liberation of Niger. In 1985, Tuareg rebels affiliated with the group attacked a desert outpost of Niger, Tahim-Tabaradene.

Relations between the two countries withered and work stopped on the construction of an imposing new Libyan People's Bureau, or embassy, in Niamey. But seeing opportunity in the death of Mr. Kountché, the Libyans began what one European diplomat called "a charm offensive." The Libyans sent their foreign minister to President Kountché's funeral, were host to Niger's foreign minister in Tripoli, and invited Niger's new president, Colonel Ali Seybou, to visit.

In Niamey, construction resumed on the Libyan embassy and the Libya-Niger Friendship Club was revived. In Tripoli, the Libyans promised to disband the Niger rebel group and to pay a decade-old debt of \$7.4 million owed for a shipment of uranium from Niger.

With this impoverished country of six million people, the temptation is great to get along with its wealthy northern neighbor. According to the World Bank, Niger has the 10th-lowest recorded per capita

income in the world — \$200 a year. "We are following a policy of good neighbors, and we didn't choose our neighbors," Niger's minister of foreign affairs and cooperation, Mahamat Sani Bako, said in an interview. "We want to live in peace, but we also know what is Gadhafi's philosophy, his instinct for domination."

To prevent Niger from following in the path of the Sudan, Western countries have established close links with the country's armed forces. The United States and West Germany virtually created Niger's 100-man air force. Drawing on ties dating back to the French colonial era, France supplies and trains Niger's 4,000-man army.

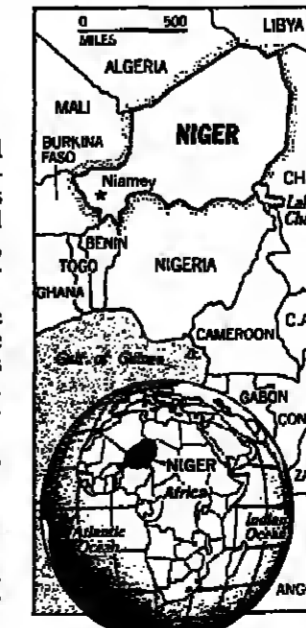
The most striking example of Western commitment in Niger was the \$3.2-million renovation by the United States of an airstrip at Dirkou, a Saharan oasis 180 miles (300 kilometers) west of Chad and 280

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Even Soviet Prosecutor Says Azerbaijan Riots Constituted 'Pogroms'

MOSCOW — A senior Soviet law official said gangs of youths hunting Armenians committed "terrible crimes" in the Azerbaijan city of Sumgait last month, according to a newspaper reaching Moscow on Tuesday.

The deputy prosecutor-general, Alexander Katushev, in a clear reference to the ethnic nature of the violence in Azerbaijan, used the word "pogroms" to describe the riots in Sumgait.

"In Sumgait," Mr. Katushev told the Azerbaijan Communist Party newspaper, Bakinsky Rabochy, "there were massive disorders, accompanied by pogroms, arson and other outrages."

The word was also used recently by a member of the unofficial publishing collective Glasnost, when after visiting Sumgait said that witnesses called the violence there a "horrifying pogrom." But previous official accounts of the incidents on Feb. 28, in which police say 32 people died, have avoided any specific reference to their racial character. Unofficial reports have put the death toll at more than 350.

Mr. Katushev said that the perpetrators were being hunted down by a special force of law officers and police investigators and would face the "most severe penalties."

Analysts said the use of the term "pogroms" — a Russian word originally used to describe the organized massacre of Jews in the old Czarist Empire — marked a new stage in official reports of the upheaval.

Accounts gathered by Moscow dissidents who have traveled to the area suggest the rioters committed atrocities against Armenians, including the murder and mutilation of pregnant women.

Mr. Katushev gave no details of the violence, which has only been sparsely reported in the Moscow media. But he said there had been a number of cases during the riots when Azerbaijanis sought to protect Armenians.

In his interview in the newspaper's March 12 edition, he said most of the rioters were young people, including teen-agers.

The Sumgait riots started after Armenians demonstrated to demand that Nagorno-Karabakh, a predominantly Armenian region of

Azerbaijan, be reunited with the Armenian republic.

Gorbachev Honors Tito

Mikhail S. Gorbachev stood at the grave of Tito on Tuesday, paying tribute to the man who broke ties with Moscow and put Yugoslavia on a economic path similar to the one the Soviet leader seeks to follow now. The Associated Press reported from Belgrade.

Mr. Gorbachev also agreed to a declaration with Yugoslav leaders that is expected to establish a new basis for relations between Moscow and Belgrade, which broke with the Soviet bloc in 1948.

The declaration incorporates previous documents from the 1950s, when Nikita S. Khrushchev mended relations with Tito. Mr. Gorbachev is the first Soviet leader to visit since Leonid I. Brezhnev attended Tito's funeral in 1980.

In talks Monday with Yugoslav leaders, the Soviet representatives stressed that no Communist country has an absolute model for building socialism, Vadim Logvinov, the Soviet deputy foreign minister, said.



Mikhail S. Gorbachev, accompanied by his wife, Raisa, laying a wreath Tuesday at Tito's grave.

Noriega Troops Attack Hospital to Quell Protest

By Larry Rohter
New York Times Service

PANAMA — Units of the Panamanian Defense Force attacked the country's largest hospital on Tuesday after doctors and nurses who had not been paid took to the streets demanding their paychecks and the overthrow of General Manuel Antonio Noriega, the country's military leader.

At least 23 doctors, nurses and other medical workers were wounded or injured in the three-hour skirmish, which ended when heavily-armed military forces stormed the hospital.

Troops fired tear gas and birdshot into the lobby and upper floors of the building, and some patients had to be evacuated from their rooms after they were enveloped by gas and rounds of birdshot landed in their beds.

The violence erupted as General Noriega's cash-starved government

was unable for the second consecutive day to meet payroll obligations for the country's more than 140,000 government employees.

In other parts of the capital, teachers demanding to be paid were dispersed by riot police, and electrical, telephone and water workers began staging slowdowns.

In Colón, a major port town at the Caribbean entrance of the Panama Canal, store owners said that groups of hungry people had broken into some grocery stores and made off with food.

Panama's economy has been sliding toward collapse since March 3, when the government acknowledged it could not meet its financial obligations and ordered all banks to close.

With no money to back government checks, doctors and other state employees are demanding to be paid in U.S. dollars, which are the legal currency of Panama.

The incidents at the General Hospital of the Social Security Administration, which has more than 3,000 employees and 900 patients, began shortly after 9 A.M. Angry at not being paid on Monday, medical personnel blocked the Trans-Isthmus Highway, the main thoroughfare linking the Atlantic and Pacific coasts of Panama.

A Defense Force detachment arrived on the scene, accompanied by an armored vehicle, mounted with two water cannons. The cannons began firing a blue spray mixture of water and pepper gas at the hospital workers.

The doctors and nurses were driven back, but instead of dispersing, they retreated behind the walls of the hospital grounds and began firing rocks and bottles.

Noriega Funds Blocked
In related developments Tuesday reported by The Associated Press.

A federal judge in New York granted a preliminary injunction permanently barring General Noriega's government from withdrawing up to \$50 million on deposit in U.S. banks, Reuters reported.

District Judge Lloyd MacMahon issued the injunction at the request of the deposed president, Eric Arturo Delvalle.

Panama ordered a U.S. diplomat out of the country within 48 hours. The Foreign Ministry said Terrence Kneebone, head of the public relations office at the U.S. Embassy, was expelled because his "functions in Panama were incompatible with his diplomatic work."

The State Department in Washington refused to accept the expulsion order on grounds it was not issued by the government of Mr. Delvalle, whom Washington regards as Panama's legitimate leader.

But he acknowledged that the negotiations had run into "serious difficulties."

The Afghan foreign minister, Abdul Wakil, who canceled a scheduled press conference earlier Tuesday, left the afternoon session without commenting.

Despite efforts to play down the significance of the deadlock, diplomats and other observers say the March 15 date had become an important psychological deadline.

Only a week ago, for example, the Afghan foreign minister said a peace agreement was nearly ready for signature. Mr. Coróñez said at the same time that no "fundamental" differences remained between the two sides, who were divided only by what he called "modalities and questions of timing."

The peace agreement, which would be guaranteed by the United States and the Soviet Union, provides for the return of the roughly five million Afghan refugees who have sought safety in Pakistan and Iran.

But signing the agreement is being held up by two other disputes, both of which have only recently emerged as serious obstacles to the accord, officials say.

First, Pakistan is linking its agreement to progress in what it calls the "second track" negotiations on forming a broad-based coalition to take power from the Kabul regime of Major General Najib as the Soviets withdraw.

At the same time, the Reagan administration says it will not suspend military assistance to the mujahidin as the draft peace treaty requires, unless Moscow also stops its military aid to the Kabul government and the Afghan Army that supports it.

The Kabul regime refuses to negotiate its own disappearance at the Geneva peace talks by accepting the Pakistani demand for an interim government.

The second major difficulty holding up agreement relates to the Reagan administration's sudden demand for "symmetry" in the cutoff of military supplies to the two sides in the conflict.

The Soviet Union and Kabul interpret the pledge of noninterference in Afghanistan's internal affairs that is contained in the draft peace treaty as meaning the United States must cease military supplies to the mujahidin when the accord is signed. To prevent this leaving the guerrillas at a military disadvantage, the United States has already insisted on "front loading" the Soviet troop withdrawal plan so that most of the Russian troops leave quickly, before the guerrillas' stocks of arms and ammunition become seriously depleted.

But under pressure from conservative elements in Congress, officials say the United States is now asking Moscow to end all military help for the Afghan Army at the same time as the United States cuts off the guerrillas.

Deadline Passes With Afghanistan Talks Stalled

By Paul Lewis
New York Times Service

GENEVA — The date set by Moscow for an agreement ending the Afghan war and allowing the withdrawal of the 115,000 or so Soviet soldiers fighting in Afghanistan expired Tuesday with peace talks deadlocked over late demands by Pakistan and the Reagan administration.

Negotiators sought to play down the significance of the deadlock, saying Moscow never intended March 15 to be a serious deadline for ending the eight-year-long conflict and stressing that the Geneva peace talks will continue.

In Moscow, Genadi I. Gerasimov, the Soviet Foreign Ministry spokesman, accused Pakistan and the United States of delaying a peace accord and warned that the longer the Geneva talks drag on the longer Soviet troops will stay in Afghanistan.

He recalled that Mikhail S. Gorbachev, the Soviet leader, originally suggested March 15 as the target date for signing a peace agreement in Geneva and said Moscow would then start pulling out its troops 60 days later, on May 15.

Now, he warned, the pullout might be delayed. "Those who expect they may continue evading the conclusion of agreements while hoping the date for the withdrawal of the Soviet forces will stay unchanged are greatly mistaken," Mr. Gerasimov said.

Pakistan's deputy foreign minister, Ziam Noorani, reported only "marginal progress" at Tuesday's negotiating session, but made it clear that the talks would go on. Pakistan negotiates on behalf of the Afghan nationalist guerrillas, or mujahidin, who are battling the Moscow-backed Communist government in Kabul and the Soviet forces helping its army.

Diego Coróñez, the UN under-secretary-general who acts as mediator in the negotiations between the Pakistan and Afghan governments, described March 15 as an important date for the Soviet Union, although he said it was never a real deadline for a peace agreement.

WORLD BRIEFS

Iran Says Iraqi Air Attacks Killed 70

NICOSIA (Reuters) — Iran said that Iraqi air raids killed more than 70 persons in more than 12 cities on Tuesday. It also reported heavy retaliation with bomb, missile and artillery attacks.

The Tehran radio, monitored in Nicosia, said the dead included 1 persons who were killed in an Iraqi air raid on a school in the southern town of Alashbar. The radio reported 21 Iranian air raids on Iraqi troops and economic and military installations and said Iraqi targets close to its border were bombed with missiles and artillery.

Ali Akbar Velayati, the Iranian foreign minister, said that Iraqi retaliatory attacks "will continue until the complete halt of Iraqi strikes on our country's residential, nonmilitary and economic areas." Tehran radio said that targets of the Iraqi air raids included Khomoin, the town of Ayatollah Ruhollah Khomeini, 160 miles (259 kilometers) southwest of Tehran.

3 Ex-Uzbek Officials Commit Suicide

MOSCOW (Reuters) — Three former senior officials in the Uzbek Republic, who were accused of taking bribes in a widespread corruption scandal, have killed themselves, the newspaper *Komsomolskiy Pravdy* said Tuesday.

In a report on a five-year police investigation, the newspaper said four former top Communist Party secretaries in the Central Asian republic, as well as former Prime Minister Narmakhomadi Khudayberdiyev and a former vice president, had been arrested and were awaiting trial.

The report identified the officials who killed themselves as a retired interior minister, Kodrat Egashber, his first deputy, G. Davtyev, and Ramzat Galipov, a regional party chief. They were linked with Shamsi Rashidov, Uzbek party chief from 1959 until his death in 1983, who press reports have suggested was behind a vast network of corruption.

Violence Mars Colombia's Local Polls

BOGOTA (NYT) — Colombia's first municipal elections, planned as a way of enticing leftist guerrillas to abandon decades of insurgency and accept the rules of democracy, have been overshadowed by extremist violence and marked by low voter turnout.

The main target of the violence was the leftist Patriotic Union, which has sent 29 of its 87 mayoralty candidates and more than 100 of its candidates for municipal councillor killed in the six months preceding Sunday's elections.

According to preliminary results, the Patriotic Union won only 14 of 1,009 mayoralties. Most of the races were won by the two traditional parties, with the opposition Conservative Party achieving an important victory over the governing Liberal Party by taking the mayoralties of Bogotá and Medellín, the two largest cities.

Gemayel Invites Any Hostage Rescue

BEIRUT (NYT) — President Amin Gemayel of Lebanon says Western governments are welcome to come and rescue any of their citizens held hostage in his country.

In an interview with a French radio station, the president said if Western governments could not agree to the demands of the kidnappers they should take a tough line as the Soviet Union did in 1985 when three of its nationals were captured and quickly released in mainly Moslem West Beirut.

Mr. Gemayel, whose statements were broadcast Tuesday by Lebanese radio stations, repeated that the locations where more than 20 Western nationals are held are known. But he did not specify where the locations were.

TRAVEL UPDATE

Moscow Warns Inefficient Hotels

MOSCOW (AFP) — The Soviet state tourist agency Intourist will impose economic sanctions against hotels and restaurants that provide poor service to tourists, the Intourist president, Vladimir Y. Pavlov, said Tuesday.

In an interview with the Communist Party daily Pravda, Mr. Pavlov said Intourist hotels or restaurants that received complaints from tourists, risked being downgraded or could be fined 5 percent of their earnings.

Discussing the tourist industry in the Soviet Union, Mr. Pavlov said the country suffered from a lack of hotel space, although he said this was being remedied with the construction of 30 new hotels nationwide. He also said the industry suffered from low salaries, which failed to motivate hotel and restaurant staffs, and out-of-date management structures.

Heavy snow in East Germany is disrupting road and rail traffic in the southern part of the country. An East Berlin newspaper, Berliner Zeitung, said Tuesday that some roads in the Marienburg region had been closed and that rail service in mountainous areas had been disrupted. (Reuters)

Rail passengers in northern Japan were left stranded Tuesday for more than three hours by a power failure in the 37-mile-long (60-kilometer-long) Seikan Tunnel, the world's longest undersea tunnel. The rail authority said it was investigating the outage. Six trains have been stopped by faulty fire detectors since the tunnel opened to trains for the first time on Sunday. The tunnel links Japan's largest island, Honshu, with Hokkaido, the northernmost main island. (AP)

Seamen working for the British ferry company P&O decided Tuesday to continue their six-week strike despite being handed dismissal notices by their employers. (Reuters)

About 1,200 pilots and crew members of state-run TAP Air-Portugal and its charter unit, Air Atlantia, have called a one-day strike for March 23 to protest planned changes in the labor laws, a union spokesman said Tuesday in Lisbon. The spokesman said about 30 international and domestic flights would be disrupted. SATA, a semi-private airline in the Azores Islands, is also expected to take part. (Reuters)

Indian Arrests Continue In Nationwide Walkout

By Sanjoy Hazarika
New York Times Service

NEW DELHI — Thousands of opposition politicians, trade union leaders and other activists were arrested Tuesday during a daylong nationwide work stoppage called by opposition groups seeking to force the resignation of Prime Minister Rajiv Gandhi's government.

Officials said that about 3,000 persons were held, many of them under preventive detention laws, swelling the total number of detainees since the arrests began last Saturday to more than 23,000.

Most of those detained could be released Wednesday, the officials said.

Reports said that the strike appeared to be most effective in the major cities, save for New Delhi. Schools and markets were closed, bank and insurance operations slowed, main stock exchanges halted, and international and domestic flights and long-distance trains were delayed.

It appeared to substantially slow, but not stop, economic activity and government functioning.

Indian officials described the response in those states run by the ruling Congress (I) Party as "partial." Members of Mr. Gandhi's party control 17 of India's 29 states and union territories.

A number of clashes between supporters and opponents of the protest, as well as street battles with police, were reported, but these appeared to be minor. In the most serious incident, one person was killed and five wounded in a fight between leftist demonstrators and police in the eastern state of Bihar.

Opposition leaders proclaimed the strike a success and said it was the largest in more than six years. Indian officials said it was largely peaceful, and very effective in at least five opposition-controlled states.

"The response has been most impressive because of the repressive measures taken by this government to prevent the strike," said Chandra Shekhar, the president of the Peoples Party, which was a sponsor of the strike.

Mr. Shekhar was referring to the thousands of preventive arrests, especially from the southern state of Tamil Nadu, which reported the largest number of such detainees — at least 19,000, allegedly of petty thugs and some junior politicians.

The confrontation between Mr. Gandhi and the opposition took a sharper turn Tuesday after the federal government passed a constitutional amendment in Parliament empowering it to declare a state of emergency in the state of Punjab because of internal disturbances there.

Punjab has been shaken for more than six years by a terrorist Sikh independence movement in which thousands have died. Since May, it has been directly ruled by New Delhi.

The legislative move increases the scope of a declaration of emergency, which can be used to curb fundamental rights and freedoms.

The opposition denounced the move as authoritarian and walked out of the legislative chamber in protest.

Organizers of the nationwide work stoppage said there had been millions of participants, but they could not offer specific figures.



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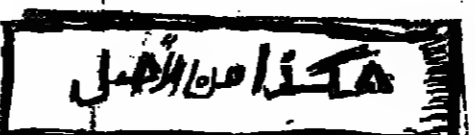
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Senate Cuts Gephardt's Retaliatory Trade Plan

By Stuart Auerbach

WASHINGTON — Senate conferees considering a major trade bill have dropped the Gephardt amendment, which required retaliatory measures, and the House is likely to consider the same provision later this week.

The Senate action Monday was expected. It had been put off until this week to avoid embarrassing the presidential campaign of Representative Richard A. Gephardt, Democrat of Missouri, the amendment's sponsor. His faltering campaign is making a last-ditch effort in Tuesday's Illinois primary.

House conferees are expected to take up the amendment Thursday. It remained unclear whether they would vote to drop the amendment or try to keep it alive until the March 26 Michigan Democratic caucus.

The Gephardt amendment, the most controversial section of the trade bill, would force retaliation against nations that gain large trade surpluses with the United States through unfair means.

It formed the centerpiece of Mr. Gephardt's presidential bid and helped carry him to a strong victory in Iowa and a second place finish in New Hampshire. The campaign fizzled on "Super Tuesday" in the South.

Instead of the Gephardt amendment, the Senate conferees offered their own provision, which is considered tougher than present law but more acceptable to the administration. It requires retaliation against unfair trade practices, but does not base retaliation on the existence of large trade surpluses with the United States.

Mr. Gephardt's aides, seemingly seeking to put the best possible face on the Senate action, said that it was no surprise. "We are confident that whatever emerges from the conference will be a new and forceful policy to open foreign markets," said the Gephardt amendment helped pave the way, a spokesman, Mark Johnson, said.

The Senate also met another major administration complaint by dropping from the bill a list of practices — including export campaigns aimed at specific U.S. industries — as grounds for unfair trade complaints. "That is a major concession to the administration," said Senator Lloyd Bentsen, Democrat of Texas, chairman of the Senate conferees.

House and Senate conferees, working to get action on the broad trade bill, agreed late last month to drop a number of sections from the bill that the administration found most objectionable. These measures, characterized as protectionist, would have set import quotas on lamb, have given a few sugar refiners millions of dollars in customs rebates and allowed private suits for customs fraud.

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Opponents of the death penalty in Gainesville, Florida, holding a candlelight vigil the night before Willie Darden's execution.

Still Maintaining Innocence, Man Is Executed in Florida

Compiled by Our Staff From Dispatches

STARKE, Florida — Willie Jasper Darden, 54, who maintained his innocence through 14 years on death row and became the focus of an international debate on capital punishment, was executed Tuesday in the electric chair.

Mr. Darden was convicted of fatally shooting a Lakeland businessman, James C. Turman, after robbing Mr. Turman's wife of \$15 in September 1973.

"I was not guilty for the charge for which I was arrested and this morning I tell you I am not guilty of the charge for which I am about to be executed," Mr. Darden said in a final statement to 30 witnesses. "I go this morning with a clear conscience. I bear no guilt. I'm at peace with myself, with the world, with each of you. God bless you."

He was declared dead after 2,000 volts of electricity flowed through his body for two minutes.

Mr. Darden's case attracted worldwide attention, including pleas for clemency by the Soviet dissident Andrei D. Sakharov and other human rights activists. They said Mr. Darden was railroaded because he was black and the victim was white.

Earlier Tuesday, Wayne Robert Felde was executed by electrocution in Louisiana for the 1978 murder of a policeman.

Mr. Felde, 38, a Vietnam veteran, said that postcombat stress and

exposure to the defoliant Agent Orange subjected him to harrowing flashbacks and led to the slaying.

The last time more than one inmate was executed on the same day in the United States was Aug. 28, when murderers were put to death in Florida, Alabama and Utah.

Mr. Darden was the 96th person executed in the United States since the Supreme Court restored capital punishment in 1976. Only Howard V. Douglas, who has been on death row in Florida since December 1973, has spent more time awaiting execution.

Opponents of the death penalty, led by the London-based human rights group Amnesty International, have said that Mr. Darden had an alibi and that statements from two persons supported his claim that he could not have committed the murder.

About a dozen people demonstrated Monday outside the U.S. Embassy in Stockholm, urging that Mr. Darden's sentence be commuted.

The U.S. Supreme Court, the 11th U.S. Circuit Court of Appeals, a federal judge and the state Supreme Court rejected Mr. Darden's appeals. His only hope was a reprieve from Governor Bob Martinez, who rejected pleas by Mr. Sakharov, the Democratic presidential candidate Jesse L. Jackson, the actress Margot Kidder and others.

Early Tuesday, about 40 protesters gathered in a pasture across from the Florida State Prison.

On Sept. 8, 1973, James Carl Turman was killed after he interrupted an attempt at sexual assault against his wife, Helen, whom the attacker had just robbed at the Turmans' furniture store. A 16-year-old employee of the store was shot and permanently disabled when he tried to help Mr. Turman. Mrs. Turman and a neighbor, who was also wounded in the incident, identified Mr. Darden as the killer.

Police and prosecutors said Mr. Darden was the prime suspect in at least five other slayings committed during his furloughs from the Avon Park Correctional Institution in 1973.

(AP, UPI)

Democrat Wants 'Smoke' in the Process

By R.W. Apple Jr.

CHICAGO — None of the presidential candidates, says Newton N. Minow, "utters a word that lifts your heart, and the system we're using to choose among them is a serious mistake that's steadily getting worse."

What is needed, Mr. Minow, a Chicago lawyer, said in an interview Monday on the eve of the Illinois primary, is a return to the old system of competitive conventions rather than relying on primaries and caucuses to choose nominees who are then merely approved by ceremonial conventions.

Where others, like Governor Michael S. Dukakis of Massachusetts, sneer at "brokered conventions" as a device that keeps the public out, Mr. Minow welcomes them, using the term "open conventions," which he says he thinks brings in the party's and the nation's interests.

Mr. Minow, 62, has been watching conventions for a long time. A Democrat, he attended his party's gatherings in 1952, 1956 and 1960 as an assistant to Adlai E. Stevenson, in 1964, 1968, 1972 and 1976 he went as a delegate. After that, he said, "I concluded that the whole process was a sham, and I've been trying ever since to get some momentum for change. The delegate now has no real chance to use his or her judgment. They could stay home, and the result would be exactly the same, determined by a computer."

Only once has Mr. Minow held high public office. He headed the

Federal Communications Commission from 1961 to 1963, coining the epithet "vast wasteland" to describe U.S. television. But he is one of those people who seems to be involved in every field.

In the last 25 years, he has served institutions as various as the Mayo Clinic and the Chicago Symphony, the University of Notre Dame and the Jewish Theological Seminary of America, the Public Broadcasting System and the Encyclopedia Britannica.

Perhaps for that reason, he says he believes presidential nominees ought to be chosen by conventions representing the various constituencies important to a successful presidency: Congress, state government, business, the foreign policy establishment and so on. That would mean fewer primaries, different primaries or none at all, he says, and less direct public participation, but he defends such "undemocratic" ideas as perfectly valid.

"What I'm talking about is representative, rather than direct participatory, democracy," Mr. Minow said. "We elect people to Congress instead of conducting national referenda on issues because we think that senators and congressmen can spend more time on legislation than we can. By the same token, I want convention delegates to be people who collectively are better judges of the potential presidents than the average voter can be."

If no one has amassed a majority of the delegate votes (or something close to one) before the convention

opens in Atlanta in July, Mr. Minow for one would welcome a return to bargaining in a proverbially smoke-filled room — a room, he wrote in The Chicago Tribune last week, "where women and minorities join the men as equal partners, with participation of people of all ages, with diverse interests and from different parts of the nation."

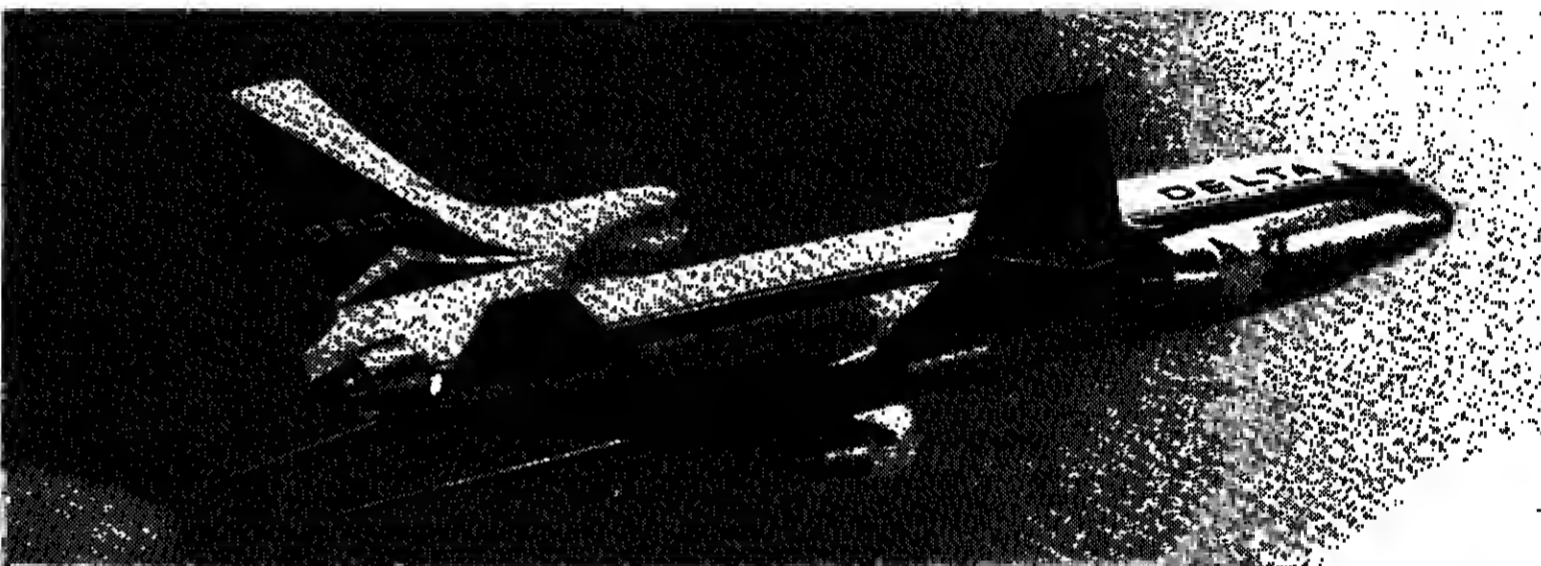
That, he said, might produce a

candidate as good as those produced by the last conventions he considers to have been truly open: the ones in Chicago in 1952 that nominated Mr. Stevenson and Dwight D. Eisenhower.

Was it not possible, Mr. Minow was asked, that he was simply indulging in that most beloved of old politicians' pastimes, nostalgia?

"The past," he replied, "is not always worse than the present."

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CAMPAIGN BRIEFS

Jackson Predicts Victory in Illinois And a 'Significant Breakthrough'

CHICAGO (AP) — The Reverend Jesse L. Jackson predicted victory and a "significant breakthrough" in the Illinois presidential primary, which began with a tight turnout on Tuesday, and Vice President George Bush said he would credit what was keeping his rival for the Republican nomination, Senator Bob Dole, in the race.

"I'm not sure I understand what he's doing," Mr. Bush said during a final campaign swing in the state, where polls forecast a landslide victory for him.

But both Mr. Dole and Pat Robertson were insisting they were staying in the race, though Mr. Robertson, a former television evangelist, said he would re-evaluate his status if he got less than 5 percent of the vote.

Illinois voters express their presidential preference in a non-binding "beauty contest" and also elect convention delegates. It is possible a candidate to do well in the popular vote, but lose out in the contest for delegates to a contender who has stronger slates filed in the state's 22 congressional districts.

Democrats' Chairman Making Plans

CHICAGO (AP) — The Democratic Party chairman, Paul Kirk, suggested Monday that he would try to rally uncommitted delegates to the party's presidential nominating convention behind whichever candidate leads the field when the primaries have ended, if no one has yet secured a numerical lock on the nomination.

Mr. Kirk said the party leaders and other officials who automatically hold seats as national convention delegates had a "special responsibility" to help insure that the nominating process did not turn into a political fight that might damage the nominee.

Rodino Will Not Seek Re-election

WASHINGTON (LAT) — Representative Peter W. Rodino Jr., a leading civil rights advocate who also was chairman of the impeachment hearings of President Richard M. Nixon, bowed to the demands of minority constituents in his heavily black district in New Jersey on Monday and announced that he would not seek a 21st term in the November election.

Mr. Rodino, 78, a Democrat who is one of the oldest members of the House and chairman of its Judiciary Committee, said that he would leave his post in January, but he made no mention of the pressure that had been building from constituents that he retire.

Despite Mr. Rodino's record as a champion of civil rights, demands that he step down had been increasing in recent years as blacks came to make up the majority of voters in his Newark district. The voting-age population of Mr. Rodino's district was 54 percent black in 1980, according to the 1980 census.

French Police Arrest a 'Hacker'

PARIS — French policemen said Tuesday that they were questioning a West German computer "hacker" who has acknowledged breaking into top-security U.S. and European computer data banks last year.

The West German, Steffen Wernery, and a compatriot, Hans Gliss, a journalist, were detained by detectives in Paris late Monday at a world convention on computer security. Mr. Gliss was released a few hours later.

The police said Mr. Wernery, co-president of the Chaos Computer Club in Hamburg, had been wanted for questioning since last year, when several French companies, including local subsidiaries of Philips and NEC, started legal proceedings over the theft of computer data. French policemen raided Chaos offices in September and reportedly collected evidence against the club, but under West German law they were unable to detain Mr. Wernery.

Syria Appoints Ambassador
DAMASCUS — Siba Nasser, 47, is to become Syria's first woman ambassador and will be posted in Belgium, officials said Tuesday.

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Air Fare Rise in U.S. to Hurt Businessmen, Among Others

By Agis Salpukas
New York Times Service
NEW YORK — The full coach fares that business travelers normally pay on flights inside the United States went up sharply on Tuesday on many routes, and many less restrictive discount fares used by them are ending.

The magnitude of the changes — only now beginning to be realized even by airline and travel industry executives — will lead to whopping increases on many routes for people who cannot plan far enough ahead to take advantage of heavily restricted discount fares.

The cost of flying between New York and Houston, for example, will jump for many travelers from \$195 to \$395 one way. That reflects an elimination of a \$195 discount fare available only on a limited number of seats, as well as an increase in the full coach fare, to \$395 from \$295.

U.S. Study Warns Of Lack of Ozone

WASHINGTON — The protective ozone layer over the United States appears to have depleted by about 2.3 percent since 1969, scientists said Tuesday in the most thorough study yet of the problem. Experts have estimated that a 1-percent depletion could mean a 5-percent to 6-percent increase in skin cancers.

The scientists laid the responsibility squarely on chlorofluorocarbons, chemicals used in power soot aerosol sprays. The report was prepared by the National Aeronautics and Space Administration. It was issued a day after the Senate, on a vote of 83 to 0, made the United States the first major chemical-producing nation to accept a 31-country treaty cutting emissions that damage the Earth's protective ozone layer.

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For Cancer Victim, 13, Record Comes Post-Haste

By Warren Getler
International Herald Tribune
SUTTON COLDFIELD, England — When mail arrives for Mario Morby, a 13-year-old cancer victim, it comes by the truckload.

This week, the local post office said it would be delivering 40 bags stuffed with postcards, sending the total of cards so far sent to Mario to well over 500,000. He will be mentioned in the 1988 Guinness Book of Records as having received more cards than anyone else — a new category.



Mario Morby gets a kiss from sister Elena, 7, as he sorts a batch of his cards.

He doesn't know exactly how many cards he has received. "I've lost track; it may be on its way to 1 million," said Mario, who is in remission in his bout with rhabdomyosarcoma, a rare form of cancer, after undergoing extensive chemotherapy since December 1985.

In the past two weeks, more than 250,000 postcards have arrived from places as far away as Tokyo, New York and New Zealand, in part because an appeal in Mario's behalf turned up in a classified advertisement in the International Herald Tribune.

"It's almost become a nightmare; the postcards are taking over our lives," said Anna Morby, Mario's mother. "The cards are lovely but they really have to stop."

Mario's father, David, shaking his head in amazement at the overflowing stacks of unsorted mail in his garage, said: "We've had two rough years with Mario, whose cancer seems to have gone into remission just a couple of months ago, and we desperately want to get back to some form of normalcy."

The boy and his father, a stonemason who since Mario's illness has been working only part time with a local poultry distributor to be able to spend more time with his son, are often up past midnight sorting out the cards that they think might sell at auctions beginning in May.

The campaign began with an article about him in the local newspaper that produced a ripple effect throughout the world. The article said that a 12-year-old local boy was seeking a place in the Guinness record book for the most postcards received and was determined to raise cash for cancer research. It said nothing about the boy's having cancer himself.

The initial campaign was a success. By December, Mario had received 147,944 postcards, mostly from Britain. He was awarded the record certificate by the Guinness people in January. The campaign seemed to be over, although a few late postcards — about 60,000 — trickled in.

But then, about two weeks ago, the cards began flowing in again. A school in Luton that had offered to help the campaign was so heavily bombarded with mail for the boy in the past two weeks that it was nearly forced to shut down.

Somehow, as the message began to be relayed around the world, Mario became known as "David" and his condition was described as "dying of cancer with less than a month to live."

That message, which to the delight of his parents was inaccurate, circulated in many ways, via telexes between multinational companies, overtrans-Atlantic computer networks and in classified advertisements. Now, Mario would like things to settle down so he could concentrate on what other boys his age do, such as a little disco dancing, swimming and helping his young sister with her homework.

An Arab Policeman's Dilemma: Law or Disorder?

By Glenn Frankel
Washington Post Service

ARTAS, Occupied West Bank — First Lieutenant Mustafa Adawi and his Arab police colleagues did not seek out the Palestinian uprising — but it found them.

In 21 years of police work under the Israeli occupation, Mr. Adawi said, he had always managed to avoid politics. It was a division of labor recognized and accepted by both Arab and Jew: he and his fellow Palestinians handled criminal and traffic cases and left security and political matters to their Israeli counterparts.

But now the uprising has pointed its finger at Mr. Adawi and the other Arabs in blue in the West Bank and Gaza Strip. A Palestine Liberation Organization directive last week demanded they resign from the police force — and hundreds immediately complied.

Ever since the violence began in Gaza on Dec. 9, Arab policemen have found themselves in an ambiguous position, wearing the same blue uniform with Hebrew markings as their Israeli counterparts, yet members of a Palestinian community in the throes of revolt.

Some policemen's lives were threatened. Graffiti began to appear on the walls of refugee camps and villages branding those working for the Israeli authorities as collaborators and traitors.

One officer was stabbed and beaten to death near his home in the West Bank town of Jericho, although Mr. Adawi insists that was "a special case" because the man was allegedly an informer. And all the time, Mr. Adawi said, there was the internal pressure of conscience.

Although he and other Arab policemen insisted that they not be involved in dealing with the disturbances that have wracked Ramallah, soldiers often brought alleged rioters to the police station. "We saw a lot of what was going on and we knew more than other people," he said.

quit the force since Thursday, and most of the rest are expected to follow soon. In Mr. Adawi's precinct, the town of Ramallah, where he was the senior Palestinian officer, every one of the 40 Arabs has walked away from his job. The same is the case in Bethlehem, where 60 officers have quit.

Their resignations mark a further shrinkage of the middle ground and a further blow to normality in Palestinian and Israeli life as the wave of unrest enters its fourth month. Like most policemen, Mr. Adawi and many of his colleagues epitomize the mainstream of their society: their political views are moderate, their values conservative. They are men of stature in their communities, and their departure is both a stunning triumph for the PLO and a serious blow to Israel.

Israel's response has been bitter. "They'll have to stew in their own juice," Mordchei Bareket, deputy district commander of the southern West Bank, told The Jerusalem Post, referring to Arab communities in his area. "There will be outbreaks of violence among them which we won't be able to handle."

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ISRAEL: Arabs on Strike

(Continued from Page 1)

personnel at the scene refused to let reporters enter the village, saying it was a closed military area.

At Qalqilya, at least five persons were reported wounded in clashes between protesters and the military after what local Israelis said were clashes between Palestinians and Jewish settlers. Some accounts put the tally of wounded as high as 30.

The Israeli Army announced that a military judge sentenced two soldiers Monday after convicting them in the beating of Palestinian detainees that was filmed by a CBS television crew on Feb. 25. The Associated Press reported. A spokesman said that one soldier, Ronnen Sasson, received 21 days in jail and that the other, Arieh Moalem, got 10 days. The CBS tape, which provoked international criticism, showed the soldiers kicking the Arabs in the head and chest, then picking up rocks and smashing them on the arms and legs.

The general strike is supposed to continue on Wednesday, according to a communiqué issued by the National United Command of the Uprising, as the Palestinian leaders of the revolt style themselves.

Shamir Cites Differences
After talks with Mr. Shultz, Mr. Shamir underscored one of the main differences. The Associated Press reported from Washington. He said that in Israel's view, the Middle East peace conference Mr. Shultz wants to convene in April to set the stage for negotiations could not play "any positive role."

In another development, President Ronald Reagan sought to reassure Mr. Shamir that he would not be put under U.S. pressure to agree in any particular solution to Israel's 40-year dispute with the Arabs.

But Mr. Reagan stressed that "making progress toward peace in the Middle East not only serves mutual interests, it is urgent."

In a speech to the United Jewish Appeal, the president said he would tell Mr. Shamir at the White House on Wednesday that "peace will not be imposed by us or anyone else."



An Israeli soldier trying to kick open a door in the West Bank village of Nur E-Shams on Tuesday as Palestinians began a two-day strike and Israel restricted travel between the occupied lands.

BRITAIN: Tax-Reform Budget Appears Amid Feud

(Continued from Page 1)

intervention to hold the pound below a ceiling of three marks. It climbed to 3.08 marks on Monday and to 3.09 marks Tuesday after his speech. Analysts said severe strains could result between Mrs. Thatcher and Mr. Lawson if the pound reaches 3.2 marks.

In the meanwhile, government officials are attempting to contain the political damage by characterizing their dispute as a "healthy argument" and by dismissing talk of a Lawson resignation as "gossip."

Underlying this dispute is a long-standing disagreement between the two over whether Britain should join the European Monetary System. Mr. Lawson has become convinced that Britain ought to join the eight European countries, including West Germany, that work through the system to stabilize their currencies. Mrs. Thatcher,

Bonn Hints It May Shift On Pretoria Sanctions

By John Battersby
New York Times Service

JOHANNESBURG — West Germany's South Africa's most important trading partner after Japan, has for the first time hinted that it might reconsider its firm opposition to economic sanctions in the light of Pretoria's recent crackdown on 18 anti-apartheid groups.

The message was delivered in several prepared speeches by President Richard von Weizsäcker of West Germany during state visits to Zimbabwe, Nigeria and Mali.

West German diplomats in Cape Town and Harare said on Tuesday that his remarks carried the full authority of Chancellor Helmut Kohl's government.

Templeton Award Plan In Abeyance

By Barry James
International Herald Tribune

The Templeton Foundation said Tuesday that it was reconsidering the decision to award its prestigious religion prize to a Pakistani Moslem leader who is alleged to have anti-Semitic sympathies.

The £220,000 (\$400,000) prize, the world's biggest, is awarded annually by Sir John Templeton, an American-born, Bahamas-based financier, to those "who through original or pioneering ways advance the knowledge and love of God."

Recipient have included Mother Teresa, Billy Graham and Alexander Solzhenitsyn.

In a message to the British Council of Christians and Jews, the foundation said it had been surprised by allegations of anti-Semitic and extreme rightist sympathies concerning the proposed recipient, Inamullah Khan, chairman of the executive committee of the World Conference on Religion and Peace and secretary-general of the World Muslim Congress.

When the 1988 award was announced last Wednesday, the council sent a message to the foundation saying it was "very disturbed" by published reports about Mr. Khan.

The Board of Deputies of British Jews also sent a telegram to the foundation, saying it had documentary evidence that Mr. Khan had been involved for many years in the dissemination of racist and anti-Semitic propaganda.

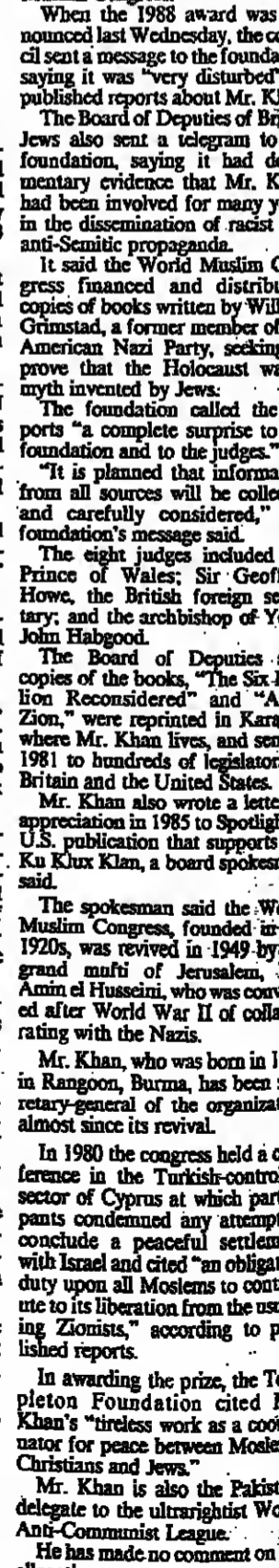
It said the World Muslim Congress financed and distributed copies of books written by William Grimstad, a former member of the American Nazi Party, seeking to prove that the Holocaust was a myth invented by Jews.

"The foundation called the reports 'a complete surprise to the foundation and to the judges.'"

"It is planned that information from all sources will be collected and carefully considered," the foundation's message said.

The eight judges included the Prince of Wales; Sir Geoffrey Howe, the British foreign secretary; and the archbishop of York, John Habgood.

The Board of Deputies said copies of the books, "The Six Million Rethought" and "Anti-Zion," were reprinted in Karachi, where Mr. Khan lives, and sent in 1981 to hundreds of legislators in Britain and the United States.



Mr. Khan also wrote a letter of appreciation in 1985 to Spotlight, a U.S. publication that supports the Ku Klux Klan, a board spokesman said.

The spokesman said the World Muslim Congress, founded in the 1920s, was revived in 1949 by the grand mufti of Jerusalem, Haj Amin al-Husseini, who was convicted after World War II of collaborating with the Nazis.

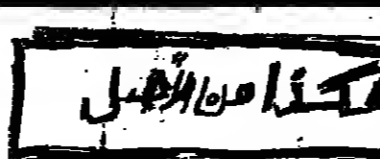
Mr. Khan, who was born in 1914 in Rangoon, Burma, has been secretary-general of the organization almost since its revival.

In 1980 the congress held a conference in the Turkish-controlled sector of Cyprus at which participants condemned any attempt to conclude a peaceful settlement with Israel and cited "an obligatory duty upon all Moslems to contribute to its liberation from the usurping Zionists," according to published reports.

In awarding the prize, the Templeton Foundation cited Mr. Khan's "tireless work as a coordinator for peace between Moslems, Christians and Jews."

Mr. Khan is also the Pakistani delegate to the ultrarightist World Anti-Communist League.

He has made no comment on the allegations.



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Herald Tribune INTERNATIONAL

Published With The New York Times and The Washington Post

Taxes for the Comrades

Old joke in Eastern Europe: Q. What is the difference, comrade, between communism and capitalism? A. Under communism, man exploits man. Under capitalism, the situation is reversed.

Soak the Middle Class?

With the presidential campaign rolling along, the struggle over tax rates in the next administration is also briskly under way.

Sugar Quotas Turn Sour

U.S. sugar import quotas have turned into a disaster for the small agricultural countries of the Caribbean.

What He Did Was to Lie

The Iran-contra scandal consisted of monumental misjudgments and arrogant illegality, vanished over with half-truths and full-scale lies.

Panamanian Democracy Isn't the Concern

By Charles Krauthammer

WASHINGTON — In polite discourse it is axiomatic that the United States does not have the right to overthrow governments.



Philippines: Moslem Rebels Pose the Next Threat

By Amando Doronila

MANILA — As the administration of President Corason Aquino moves into its third year, it faces the threat of rebellions on two fronts in the Philippines.

Aquino Sparks an Entrepreneurial Spirit

By Bernardo M. Villegas

MANILA — Against all odds, the Philippine economy posted a respectable 5.1 percent growth rate last year, surpassing Indonesia and Malaysia.

Debt: This 'Radical' Plan Is Really About Voluntarism

By James D. Robinson 3d

WASHINGTON — On Feb. 29, in a speech before the Overseas Development Council, I introduced a proposal for addressing the world debt problem and its impact on trade.

Some say this plan will be costly to U.S. taxpayers. But the debt load is already on the taxpayers' back.

to negotiate market-oriented agreements with developing countries on a voluntary basis and to provide a mechanism for reorganizing a debtor country's obligations in a tailored manner.

debtors and would act as an incentive to meet their obligations and restore creditworthiness.

United Nations member states. Why is intervention justified uniquely in his case?

The reason Americans want to overthrow General Noriega has nothing to do with the human rights of Panamanians.

Americans want to depose General Noriega because his business is drugs and because his client is the United States.

The Noriega gang-up is quite simply the conduct of domestic drug policy by other means.

I am not fond of General Noriega. His overthrow will not make an ounce of difference to the U.S. drug problem.

last year helped restore a democratic process in the Philippines. During the Marcos years, the armed forces gained enormous political power.

Defense spending is a major burden — the military consumes the second-largest share of the national budget.

Amnesty International, the human rights organization, said in a recent report that Philippine government forces had engaged in political killings in the name of counterinsurgency.

But the growth is likely to lose its momentum without a large infusion of foreign investment.

The writer is senior vice president of the Center for Research and Documentation, a private think tank in Manila. He contributed this column to the International Herald Tribune.

the plan transfers the risks from bank shareholders to governments. Yes, but only after the bank shareholders take a sizable loss.

Some suggest that the plan will be costly to the U.S. taxpayer. But the taxpayer already has a big stake in the game.

The writer is chairman and chief executive officer of the American Express Co. He contributed this column to The Washington Post.

1888: The Opium Trade

NEW YORK — The United States authorities are awakening to a realization of the enormous extent to which the smuggling of contraband opium is carried on between British Columbia and the United States.

1913: French Misfire

PARIS — During firing practice by the French Mediterranean squadron near Toulon [on March 15], a shell struck a minesweeper.

Managing The Royals Business

By Jim Hoagland

LONDON — With a minimum of harrumphing, The Daily Telegraph has cast its vote: The Prince of Wales should continue to sit.

The questions that the British have been raising in the tragedy's aftermath are immediate and profitable ones.

There seems little inclination, however, to ask the broader questions of this incident should crystallize about the role of the British monarchy by 1992.

Like the mill hands and other regular contributors out of men's paychecks so that Jimmy Swaggart and the Bakers could live in elegance, low-income British taxpayers apparently live out many of their fantasies by seeing the royal's yacht their way through the year.

As with the evangelists, it is behavior and judgment of Elizabeth that cause the problems, not resentment of the monarchy.

They also want firmer assurances of stability. As long as the threat of armed rebellion remains serious, any assurances from the government are likely to fall on deaf ears.

The writer is editor-in-chief of The Manila Chronicle and a leading political analyst. He contributed this view to the International Herald Tribune.

Juan Carlos is known to feel his modern monarchies have to prove their utility and cost-effectiveness to their subjects.

This has relevance to Britain, as the frustrations that apparently help drive Charles off-piste in search of an accomplishment in danger. He has 40 on Nov. 14, and could conceivably be 60 by the time he comes to the throne.

The writer is chairman and chief executive officer of the American Express Co. He contributed this comment to The Washington Post.

1938: Soviet Execution

MOSCOW — The 18 high-placed KGB officials convicted here [on March 12] in the third great Soviet trial in recent months, were executed [on March 15], according to an official communiqué.

INTERNATIONAL HERALD TRIBUNE JOHN HAY WHITNEY, Chairman 1978-1982 KATHARINE GRAHAM, WILLIAM S. PALEY, ARTHUR OCHS SULZBERGER Co-Chairmen

Handwritten signature or stamp at the bottom of the page.

OPINION

Gorbachev Surely Grinned At the Pope's Parallelism

By A. M. Rosenthal

NEW YORK — Almost a month ago a statement was issued that will be discussed for years. It could influence the way people all over the world think and act.

There is more, obviously, in the pronouncement, including some references to the importance of economic initiative and human rights.

Even Mikhail Gorbachev might be surprised by the pope's finding that Marxism and liberal capitalism are equally bad economic systems.

ON MY MIND

criticism because he is the spiritual leader, guide and hope of so many millions throughout the world.

On Feb. 19 the pope issued an encyclical equally condemning "liberal capitalism" and "Marxist collectivism."

But the new encyclical contains language and thinking that disturbed Roman Catholics and others, people who are quite sophisticated enough to understand that no existing system meets either the needs of all the poor or the standards of all religious doctrine.

The pope said the world was divided into two blocs, West and East, liberal capitalist and Marxist, that compete for power in the underdeveloped countries.

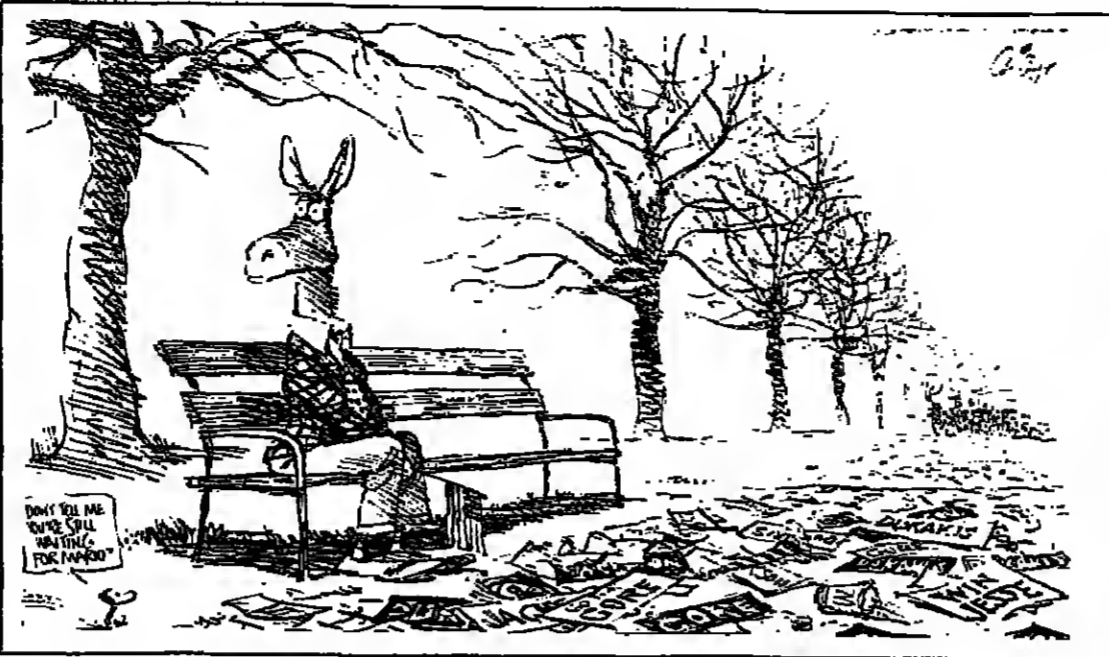
Revisionism, Vatican-Style
THE pope's Tweedledum-Tweedledoo view of the division between the visions of Marx, Lenin and Mao against those of Locke, Jefferson and Churchill makes Christian blood boil with the kind of indignation felt by the Christian martyrs who have died by the millions since 1917 imploring God to relieve mankind of the curse of what in this encyclical becomes merely one of "two systems."

But the reason Western diplomats and a number of Catholic thinkers are so unhappy that the pope did seem to say that both sides were morally equivalent.

In the world of nations and power, little counts more than the moral differences between democracy and communism.

How is it possible that this pope, son of Poland, could utter such a statement?

There are Catholic critics of the encyclical who fear he is trying to pacify the radical "liberation theology" growing in the church.



Crime Without Punishment: A Science Without a Prize

By Daniel Greenberg

WASHINGTON — The real scientific revolution of our time is the mobilization of serious research in behalf of a powerful and scientifically neglected human characteristic: vanity.

There is no Nobel Prize for banishing wrinkles, fat or baldness. But the market- MEANWHILE

place has correctly sized up the hierarchy of human concerns. First place does not go to the mysteries of superconductivity or life on Mars.

Where's the Beef, Jesse? Why do so many Southern Democrats see in Jesse Jackson the qualities necessary for one of the most delicate positions on earth?

Having Providence on one's side can be a desirable arrangement. The expression "political climate" becomes less a figure of speech and more a reality with the news from Pat Robertson that he can stand up hurricanes.

Reading Kevin Phillips' column on Pat Robertson, "The Rise of the Religious Right in America," March 11, the warning of that learned of the Last Fathers, Saint Jerome, comes to mind: "Avoid, as you would the plague, a clergyman who is also a man of business."

Letters intended for publication should be addressed "Letters to the Editor" and contain the writer's signature, name and full address.

After reading the report "Bush's Effort Runs Shon on Substance" (March 9), I am compelled to wonder what the vice president's supporters are voting for.

LETTERS TO THE EDITOR

Miserable Dutch Legacy

Those absurd complaints from former Dutch colonialists (Letters, March 8) about Barbara Crossette's very informative article on Feb. 23 would make much better reading if they reflected even a glimmer of the truth about the Netherlands' miserable legacy to Indonesia.

As a longtime student of the colonial era in Asia, I can say that Ms. Crossette erred only in the mildness of her strictures on the cruel Dutch paternalism. The Dutch left Indonesia in lamentable shape despite a presence that lasted nearly 350 years.

At the bottom of the same page, you cited an estimate of up to 350 deaths in the world by H. B.

Russians in controlling the flow of news about the Armenian episode and minimizing its seriousness, have found eager accomplices in the international press.

Compare the wide-open reporting of the Arab riots in Israel's occupied territories and of the recent bombing of United Nations truce measures, to the silence in every international forum on Soviet treatment of the Armenians.

I read with enthusiasm the response from Frederic Sachse (Letters, March 8) to the article by Barbara Crossette, especially about the education situation during the Dutch colonial era.

Arabs and Armenians

Your March 12 issue carried an article on Israeli foreign reaction to the 1,100-strong foreign press corps now scouring an area the size of Greater London for news on Israel's treatment of Arab rioters.

At the bottom of the same page, you cited an estimate of up to 350 deaths in the world by H. B.

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Overseas and Overtaxed

I read with rage the report on the legislation introduced by Senator William Proxmire and Representative Joseph P. Kloter to eliminate the \$70,000 tax exclusion on earned income for Americans living abroad.

Those of us who live abroad receive absolutely nothing from the taxes we are forced to pay to the U.S. government.

They think we have no influence on whether they get re-elected. Perhaps we should show them.

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Looking glass: A trio of window washers at a bank in Palo Alto, California, squeezing their mirrored reflections.

AMERICAN TOPICS

U.S. First Ladies Play Ever-Growing Role

The wives of American presidents are ever more active in public policy and the trend is likely to continue. The New York Times reports, "They've been growing steadily, with staffs that have grown steadily, with budgets of several hundred thousand dollars, and 'the first lady of the land,' as she traditionally has been styled, draws increasing attention from press and public."

"I don't think there will ever be another first lady who will act only as more or less a hostess," said Rosalynn Carter, a former first lady. She said that only when she got to the White House did she realize "how far short governmental programs fall in meeting the needs of the people. It made me want to do what I could while I was there and had that platform."

who has crusaded against illegal drugs, said: "If the president has a bully pulpit, then the first lady has a white-glove pulpit. It's more refined, more restricted, more ceremonial, but it's a pulpit all the same."

There is no mention of the role of presidential wife in the Constitution and it was Edith Roosevelt, wife of Theodore Roosevelt, who was first assigned a personal assistant. Nancy Reagan has a staff of 18, but she herself is unpaid.

The tradition of activist first ladies is a long one. Ellen Wilson, Woodrow Wilson's first wife, was denounced for campaigning for the Sium Clear-ance Act of 1913. Eleanor Roosevelt's work for humanitarian causes drew both praise and abuse. And Rosalynn Carter was criticized for sitting in on cabinet meetings.

\$130 million last year. The nickname "goes way back," Mr. Brennan concedes. "I've really been trying to shed that name."

The U.S. Health and Human Services Department plans to publish a consumer guide this summer to the quality of care provided by the 16,000 nursing homes in the United States. The Washington Post reports. To be issued annually, the guide will be based on inspection reports by state agencies. The project has been praised by retired people's groups but denounced by the nursing home business.

The sturdy brown paper sack is giving way to the plastic bag in U.S. supermarkets. Virtually unknown 10 years ago, the pet-

rochemical grocery bag now accounts for about half the 30 billion bags sold annually, up from 5 percent in 1982. The paper bag's share of the market "will get smaller and smaller," predicts Buck Williams of Union Camp, which produces both kinds of sacks.

Shorter Takes: Rustlers raided a farm near Rockford, Illinois, and made off with 25 cows, all pregnant, and some about to calve. Sergeant Mike Ernst of the state police said this made them especially valuable: "A calf would be worth \$150 by itself." During the decade of the 1930s, 1,685 U.S. tornadoes were recorded, causing 1,947 deaths, the National Weather Service says. In the 1970s improved reporting showed 8,375 tornadoes but, thanks largely to radar warnings, deaths dropped to 990.

Arthur Higbee

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Doug and Loraine Clark — \$ 7,059,893.70

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*All prizes quoted in Canadian dollars. The 2nd, 3rd, and 4th prizes are calculated on a percentage of the total prize pool. Since the prize pool fluctuates from draw to draw, the size of the prizes will vary from the size of the prizes shown above.

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NIGER: Western Nations Work to Hold Line Against Libyan Expansion

(Continued from Page 1)

miles south of Tummou, a Libyan base on the border with Niger, inaugurated in December, the strip lacks radar and is reachable only by C-130 transport planes of the Niger Air Force when weather permits.

Libyan officials note with suspicion that of 15 airstrips in this nation, the United States chose to renovate the strip closest to southern Libya and northern Chad. "The Americans tried to attack us through the north," a Libyan diplomat here said, referring to the

American bombing raid on Libya in April 1985. "Now they are trying to attack us from the south," he continued, referring to Dirkon, an American military aid to Niger, totaling \$18 million since 1982, has dropped this year to \$1 million from a recent annual high of \$5

million because of U.S. budget cuts. In contrast, French military aid to Niger rose 25 percent this year, according to a French military officer. He declined to give specific figures. The French maintain a 57-member military mission in Niger

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Finland F.M.	1,730	44	950	39	520	33
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Germany* D.M.	580	41	320	35	175	29
Gr. Britain £	130	40	72	34	40	27
Greece Dr.	22,000	53	12,000	49	6,600	44
Ireland Ird.	150	45	82	40	45	34
Italy Lire	380,000	42	210,000	36	115,000	30
Luxembourg L.Fr.	11,500	37	6,300	31	3,400	25
Netherlands Fl.	650	40	360	34	198	27
Norway (post) N.Kr.	1,800	45	990	40	540	34
— ** (hd. del.) N.Kr.	2,300	30	1,270	22	700	5
Portugal Esc.	22,000	58	12,000	54	6,600	50
Spain (post) Ptas	29,000	45	16,000	40	8,800	33
— Madrid (hd. del.) Ptas	45,240	—	22,620	—	11,310	—
Sweden (post) S.Kr.	1,800	45	990	40	540	34
— ** (hd. del.) S.Kr.	2,300	30	1,270	22	700	14
Switzerland S.Fr.	510	44	280	38	154	32
Rest of Europe, N. Africa, (former Fr. Africa, Middle East) \$	430	Varies by country	230	Varies by country	125	Varies by country
Rest of Africa, Gulf States, Asia \$	580	—	320	—	175	—

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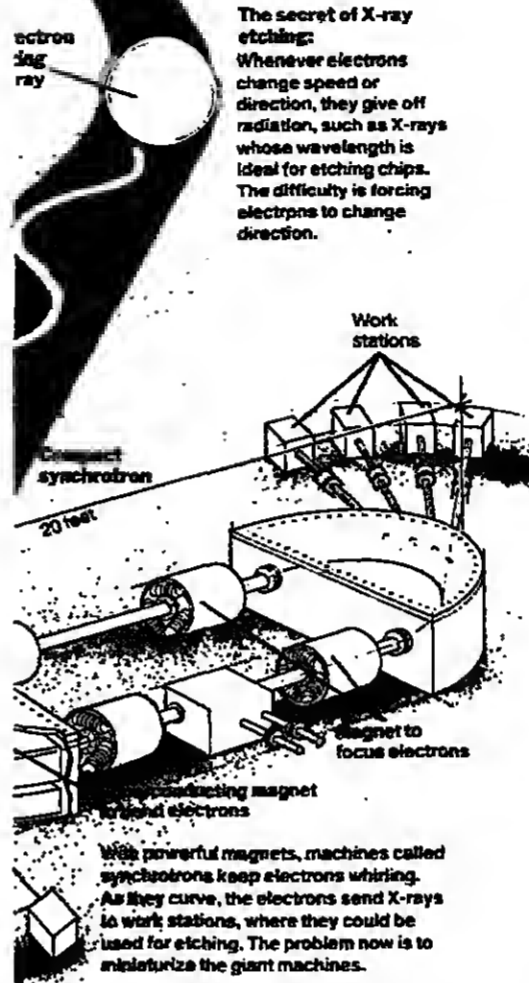
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Synchrotrons Are Joining The Chip Race

By William J. Broad



The New York Times/Illustration by Jona Brenning

NEW YORK — The race for dominance in making semiconductors, the tiny chips that carry electronic circuits, is entering a new phase as scientists, convinced that they have almost exhausted the present technology, strive to use X-rays to make chips that are faster and more powerful.

In the mid-1990s, the winners of this contest are expected to rule the most advanced part of the \$100 billion annual chip market and to propel chip-related industries such as computer manufacturing to new heights. The losers can expect an erosion of their industrial and military strength, which is intimately tied to high-technology systems.

Keenly aware of the stakes, the U.S. government earmarked \$25 million in the current budget to perfect the X-ray technology. But that is only a small fraction of what experts in the United States believe the Japanese and the Europeans are spending.

The goal of X-ray lithography, as the technique is known, is to use giant particle accelerators known as synchrotrons to etch finer semiconductor circuits than before.

The process would cram far more components onto the fingernail-sized chips that drive most electronic devices, including computers. While the best chips today have a million or so circuits, future ones created with X-rays conceivably might hold up to a billion.

Such densities would allow vast increases in chip power and speed, since it takes less time for electrical signals to zip among closely packed components. To date, most chip advances have come from shrinking the distance between circuits.

The contest has a sense of urgency because conventional methods are being pushed to the limit, because foreign competition is rising and because the technology itself has proven to be reliable after a decade of preliminary research.

Synchrotrons are close cousins of giant atom smashers and produce X-rays obtainable in no other way.

Charles H. Ferguson, a former analyst for the International Business Machines Corp. who is now at the Massachusetts Institute of Technology's Center for Technology, Policy and Industrial Development, said: "Synchrotrons look like an extraordinarily powerful technology, but they will be very expensive to develop and operate. The projected capital cost of a synchrotron chip factory is \$500 million."

Indeed, the X-ray goal is so ambitious and costly that no single corporation has the resources to achieve it.

"It's a very exciting period because of the federal funding," said David L. Huber, director of the Synchrotron Radiation Center at the University of Wisconsin. "The question is whether this is going to be

Continued on page 12

search: A Cultural Conundrum

constant change under which it develops. The development of science is not just a stion of having the financial resources. dies have shown that, historically, scientific

In this connection, it is useful to consider why the early spirit of scientific inquiry that existed in Islam and in China centuries ago has meanwhile declined.

of nature and the work of the Creator, the "master clockmaker."

COMMENTARY

Progress and research is the result of personal human activity and initiative. The will of individuals to challenge established and beliefs has been a key element in the development of modern science.

In the West, scientific reasoning and research is the result of a number of factors, first among them being the idea of progress, the belief that tomorrow can be better than today.

This change in Western thought created the precondition for modern science and the development of an "inquisitive culture." Now mandated to dominate nature, to progress and to build heaven on earth, Western man will probably never again abandon the search to understand why, how and what.

In the West, it has been argued that scientific progress has been facilitated by the West's cultural, social and political diversity. For centuries, this has permitted pockets of heterodoxy to exist.

This linear concept of time has its roots in Hellenic tradition and is so much a part of Western civilization that it is not questioned and is expressed in the boundless horizons of modern technology.

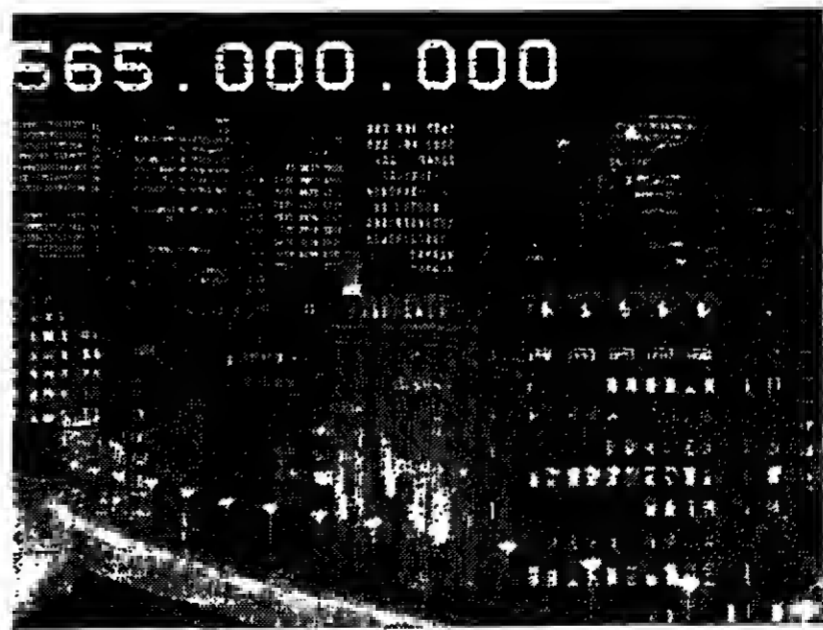
The Oriental tradition is much different. It seeks to live in harmony with nature, not to dominate it. It has a circular concept of time. Moreover, it believes that whatever can be explained is not eternal. The question of "why?" does not have the same importance in this thinking as it does in the West.

Secondly, a major transformation took place between the 12th and 17th centuries. This led to the view that man could build heaven on earth, and that all that was needed to accomplish this was to understand the laws

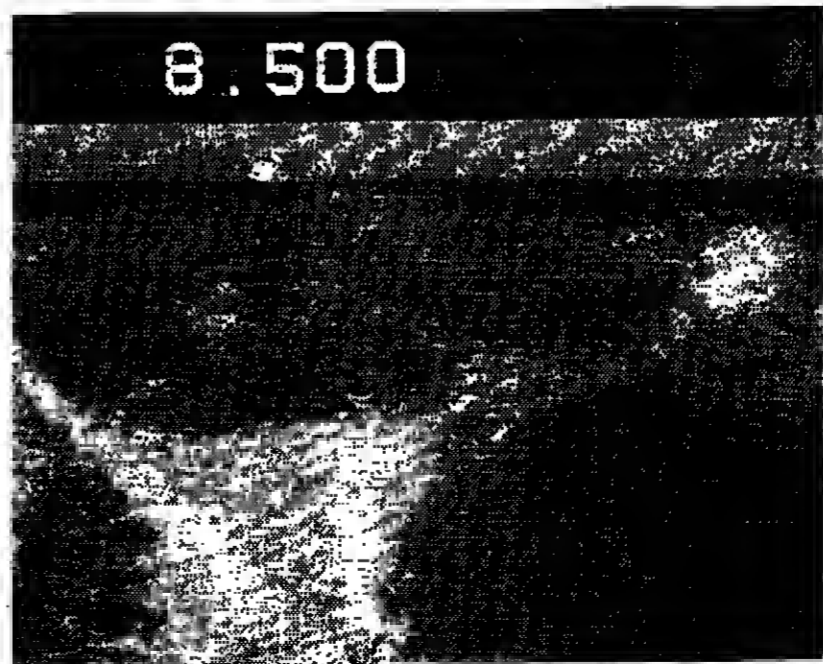
Secondly, a major transformation took place between the 12th and 17th centuries. This led to the view that man could build heaven on earth, and that all that was needed to accomplish this was to understand the laws

Thus, we can say that if individualism, Continued on page 12

ress.



individual elements make up the aerial of the TRM-S radar. Electronic control allows defined vertical scanning giving a three-dimensional display.



160.000.000 kilometres away from the earth by now the space probe Giotto met up with Halley's comet in March 1986. It is still relying on AEG solar generators for its electrical power.

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AEG

Technology

Superconductor Researchers Push Beyond Another Milestone

By James Gleick

NEW YORK — With the discovery of yet another kind of superconductor, a distant cousin of the materials found in the breakthroughs of the last year, research on superconductivity has suddenly passed a new milestone.

The first word of the new material that carries electric current with no loss to resistance came late in January from a team of Japanese scientists at the National Research Institute for Metals in Tsukuba.

Within days, a similar material was reported by scientists at the University of Houston, and more than a dozen laboratories in the United States and Europe have now succeeded in making the new superconductor.

For those trying to make wires and electronic applications out of this new generation of superconductors, the Japanese material seems to have some advantages. It works at a somewhat warmer temperature, and it may be less brittle, although, like the earlier versions, it is less a metal than a ceramic.

There are other differences. The two kinds of superconductors that set off last year's stampede of research relied on rare earths, but the new material is a compound of inexpensive, readily available elements: bismuth, strontium, calcium, copper and oxygen.

Meanwhile, a fourth material, containing thallium, barium, calcium, copper and oxygen, has been discovered by a group at the University of Arkansas. Although not as much is known about this thallium material, researchers at International Business Machines reported this month that they had confirmed that the material was a superconductor and raised the effective temperature to a record 125 kelvins, or 234 degrees below zero Fahrenheit.

For theorists, still struggling to explain the phenomenon, the discovery of two new high-temperature superconductors brings a different kind of benefit. They promise a new set of clues to the peculiar crystalline structures that make it possible for these substances to carry current with no resistance and to levitate in the presence of a magnetic field.

"Anyone who has tried to solve puzzles knows that three examples give you far better

One new material seems to offer advantages in electronic applications.

generalizations than two," said Philip W. Anderson of Princeton University. He is one of a small group of Nobel laureates putting forward theories that are plausible, but incompatible.

The instant success with the bismuth and thallium superconductors comes as a sobering contrast to the scientists' widespread failure to duplicate many reports in recent months of superconductivity at room temperature and above. The "materials that go away," as they have become known, have produced measurements suggesting superconductivity for brief periods, tantalizing and frustrating the discoverers.

The bismuth material, however, seems completely stable. Several groups have al-

ready offered diagrams of its crystal structure, including a team at Du Pont led by Arthur W. Sleight. Crystals have been grown and electron-microscope photographs taken.

Many different elements have now been found to participate in superconductivity, and physicists and chemists alike have had to struggle with the exceedingly complex structures that nature can make when four or five atoms are involved, instead of just one, two or three. The potential complexity multiplies rapidly.

"You're beginning to have the feeling that you have to put the whole periodic table together to make superconductors," said Angelica Stacy of the University of California

at Berkeley. "What new structures might be possible if we look a little harder?"

How much current and how great a magnetic field the bismuth superconductor can sustain remain to be established. Those will be key measurements in determining the substance's practical value. With the most intensely studied new superconductor, an yttrium compound, a year of study has produced mixed results.

The yttrium material's ability to support magnetic fields has proved astonishingly large, raising prospects of magnets far more powerful than any in use today. Even testing the upper limits of the superconductor has been a problem; only Japan has an instrument strong enough for the most extreme tests.

Support for high levels of electric current has been a more troubling problem. In its bulk form, the version of the material that would be shaped into wires, the yttrium material has performed poorly. Researchers at many corporate laboratories are now focusing on the microscopic grains that make up the ceramics, and particularly the boundaries

between the grains, as possible sources of trouble.

Until new techniques of fabrication are developed, the modest current-carrying ability of the bulk materials will block such applications as long-distance transmission lines, which could potentially save vast quantities of electricity that are lost to resistance. Scientists suggest that applications of that kind could be a decade or more away.

Progress has been far more rapid in developing thin films of the new superconductors, the form that will be necessary for computers and a wide range of electronic devices. Scientists at the International Business Machines Corp. and some other companies have already made thin films that carry enormous currents.

The high-temperature superconductors have caused excitement because they require only the relatively inexpensive cooling of liquid nitrogen, which boils at about 77 kelvins, or 319 degrees below zero Fahrenheit. Their practical value will depend on their performance at that temperature.

The New York Times

NASA's Challenge: Space Station Power

By Richard W. Stevenson

CANOGA PARK, California — Engineers designing the National Aeronautics and Space Administration's permanent space station are planning for the most part to use already developed, "off the shelf" technology to create the station, which will be assembled in Earth orbit in the mid-1990s.

However, one of their more demanding challenges will be supplying electricity to the station — 15 times more power than an American spacecraft has ever needed.

In the space station's first stage, the power will come from sunlight striking photovoltaic cells, the thin wafers of silicon that are most familiar as power sources for some pocket calculators. Since the photovoltaics already exist, the technological obstacles will be precisely those of scale — building 8,200 square feet (576 square meters) of the solar panels, storing the electricity and aiming the panels at the sun.

But the space station's second stage, scheduled for the late 1990s, will require new technology — a solar generator that passes gas through a chamber heated by molten salt in order to turn a turbine. The technology, called solar dynamic, has been tested on Earth but not in space.

Designing and building the power systems could cost \$2.3 billion or more and will involve a half-dozen of the

nation's major aerospace manufacturers. NASA awarded the first round of contracts for the space station in December.

The Rockwell International Corp.'s Rocketdyne division heads the power system team. The others are the Ford Aerospace and Communications Corp.,

Phase two requires new technology.

the Harris Corp., the Garrett Corp., the General Dynamics Corp. and the Lockheed Corp.

Congressional appropriations cutbacks could delay the space station and lead to significant alterations in its design. But if NASA gets its way, it will be by far the largest and most versatile manned craft ever sent into orbit.

NASA envisions it as a veritable beehive of activity, with a crew of up to eight peering deep into the universe through sophisticated telescopes, creating commercial products and engaging in state-of-the-art laboratories.

All these tasks — not to mention operating the station's life support,

communications and computer systems 24 hours a day over the expected 30-year life of the craft — are what will require so much power.

The blueprint for the program's initial phase calls for a solar power system to provide 75 kilowatts of electricity, 15 times more than the United States has generated on any spacecraft and seven times more than the Soviet Union is producing for its orbiting Mir capsule.

If the station is expanded in the late 1990s, another 50 kilowatts would be added.

In many ways, creating the photovoltaic system to generate the first 75 kilowatts is fairly straightforward. Electricity has been generated by photovoltaics on Earth and in space for many years; most satellites carry photovoltaic solar panels that produce one kilowatt or less to supply their electrical needs. The space station system, in its initial phase at least, would simply be bigger.

But the project holds many engineering challenges related to storing and distributing the electricity, ensuring reliability and ease of use and remaining within the weight and size dictated by the shuttle's cargo capacity. The station's parts will be ferried into orbit by the shuttle and assembled by astronauts.

The photovoltaic panels are the dominant visual feature of the station. Each of the four "wings" consists of two panels. Each panel measures 108 feet (33 meters) by 14.4 feet and contains thousands of silicon cells measuring 3.1 inch-

es (8 centimeters) by 3.1 inches. Each wing can be rotated to keep it facing the sun.

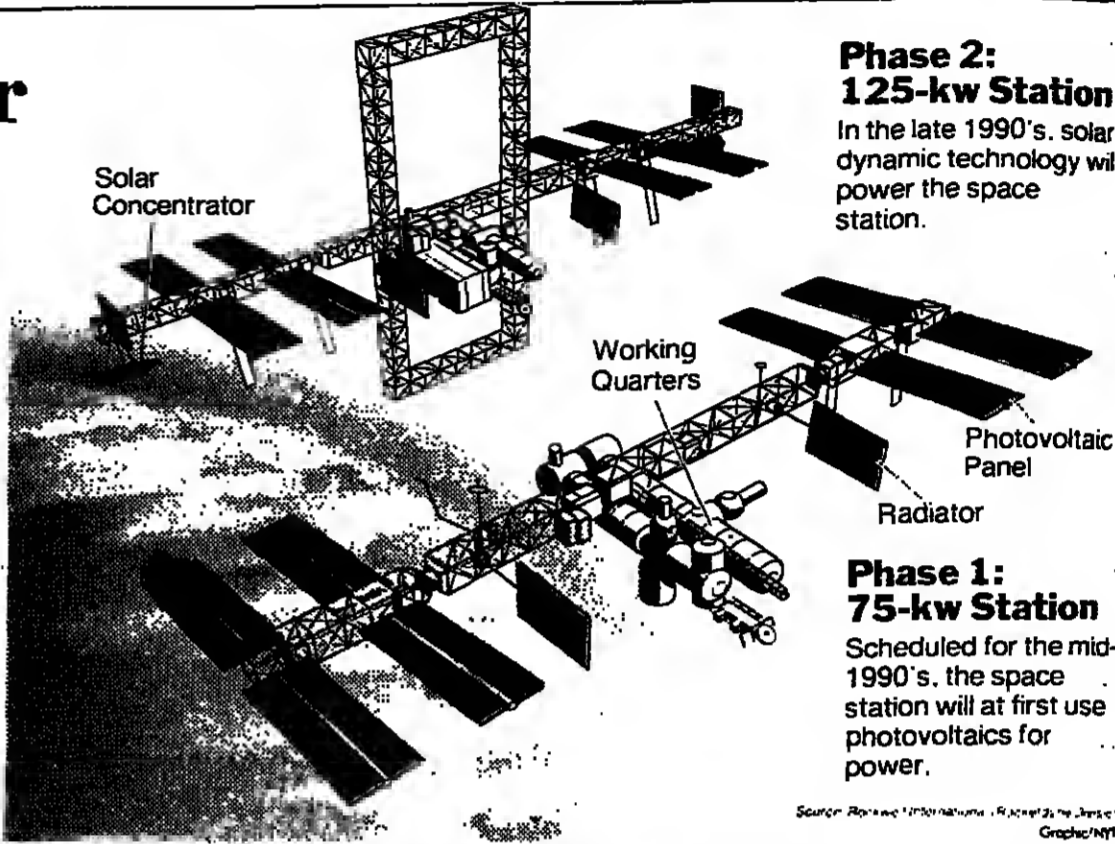
The direct-current electricity generated by the solar panels is stored in nickel-hydrogen batteries, which were chosen because they are lighter than the alternative, nickel-cadmium batteries. The batteries store sufficient energy to maintain an uninterrupted power supply, since the station will spend 30 of every 90 minutes out of sunlight.

The direct-current power stored in the batteries will then be converted into alternating current at a very high frequency of 20,000 hertz and a high voltage of 440 volts.

In the long run, however, the photovoltaic system is not as efficient as solar dynamic technology, whose proponents say is less expensive and likely to be the new standard in the 21st century.

Rocketdyne and its partners propose to use a solar dynamic system based on a gas-driven engine using a design known as the Closed Brayton Cycle.

On the space station, the Brayton technology will work by using a mirror to reflect sunlight onto a receiver. The receiver will contain pipes holding a ceramic salt-like substance composed of lithium fluoride-calcium difluoride. Within the receiver there will also be pipes carrying xenon and helium gas. The reflected sunlight will heat both the salt and the gas in the pipes. When the station is out of the sunlight, the heat energy stored in the salt will continue to heat the gas.



Phase 2: 125-kw Station. In the late 1990's, solar dynamic technology will power the space station.

Phase 1: 75-kw Station. Scheduled for the mid-1990's, the space station will at first use photovoltaics for power.

The heated gas will be run through a turbine that spins a generator, creating electricity. The gas is then cooled, compressed and run back through the cycle again.

NASA has always been wary of the solar dynamic system because of its mechanical nature. The more moving parts

in a system, the greater the chances of a breakdown. But solar dynamic's proponents say that extensive testing has proved the technology's reliability. Moreover, Rocketdyne engineers say, solar dynamic will be more than four times as efficient in generating power as a traditional photovoltaic system.

The New York Times

British Scientists Under Pressure

By Barry James

RESEARCH for curiosity's sake is, according to British scientists suffering from stringent government budget cuts, having an increasingly difficult time under the government of Prime Minister Margaret Thatcher.

The government believes that its investment in scientific and technological research should have a payoff in the reasonable future. It also thinks private industry should make a far greater contribution to research and development, and that what research needs is a touch of American-style entrepreneurial spirit.

In a parliamentary debate on the engineering industry last week, a Conservative member of the House of Commons, Spencer Batiste, echoing the government line, said it was not good enough for academics with brilliant research careers to aim for a Nobel prize but to ignore completely the practical implications of their work.

But was Sir Isaac Newton thinking of the bottom line when he worked out the laws of planetary motion? Should scientific research be subject to market forces? Many scientists, who have seen their budgets cut and their laboratories underfunded, believe the government has gone too far in its campaign to inject a degree of commercial logic into research, and is now stifling work on which future generations may depend.

Sir Roger Elliott, a professor of theoretical physics at Oxford University and vice president of the

Royal Society, the country's most prestigious scientific body, said in a telephone interview that science establishments are under pressure from the government to turn research toward strategic objectives. By this is meant, he said, "research which looks as though it will have application in the longer term, rather than basic research into such subjects as high energy physics or astronomy, where the potential results are very distant indeed if there are any at all."

Research is under pressure be-

pared with only 10 percent in 1980. That balance is likely to go on changing in favor of applied technology, but how far the process will go is open to question.

The Advisory Board for Research Councils, which advises the government on how to distribute its overall research funds, said in a report last year that only between 20 and 25 percent of the science and engineering budget should go to basic research.

The science council argues that this is excessive and that the pro-

least think about the potential application even if they don't do applied research themselves."

He said studies have shown that Britain's research standing vis-à-vis other major countries "is certainly slipping."

The argument that the government is being short-sighted about long-term research needs applies particularly to the field of space exploration.

Earlier this year, a House of Lords Select Committee on Science and Technology strongly criticized the government's absence of commitment to joining its partners in the European Community in pursuing major space exploration.

It said the government's space research budget of £112 million "gets the worst of all worlds — too much for real savings, too little for lasting achievements. If the budget is to stay at this figure, the United Kingdom might as well bow out of space now." The report stressed the importance of space research, however theoretical it may seem at the moment. "Countries involved in space in the 21st century will be the technological leaders of the day," it said.

But a government White Paper released in January made it clear that no more government money would be available for space technology. Britain has become an unpopular partner in the European Space Agency because it has vetoed increases in spending on the agency's science program unless there is an eventual market for research projects.

The kind of space plan that does appeal to the government's way of thinking is a private industry project, reported last week, to develop a low-cost rocket launcher to put satellites into low polar orbit from a base off the Norwegian coast. Although details of the consortium supporting the venture, and details of the rocket itself, still are secret, the concept is reported to have identified a global demand for small and relatively low-cost satellites by Third World countries and other users. Meanwhile, however, Britain appears to be content to leave it to others to push back the frontiers of space research.

"What's really so disappointing is that people don't seem to worry about the longer term," Dr. Elliott said. "The emphasis is all on short term needs. I think there was a real need to address the short term needs in commerce and industry at the beginning of this administration, but now the economy is turning around. Even in bad times, one needs to invest in the future."

Barry James is a staff writer for the International Herald Tribune.

The Thatcher government is pushing for quicker payoff — and practical results.

cause of severe cuts in grants to universities, which are wholly funded by the central government. Because of the difficulty of shedding tenured staff, the cuts have tended to fall disproportionately on money that was not committed in the long term, which often meant money that was there for help with research projects.

But scientific research is only one of many claimants at the communal trough. The government argues that it is up to the universities to attract more support from industry, and up to industry to carry out more applied research on its own account. And this, in effect, has entailed a still does entail a change in the national culture.

A strong anti-industrial bias lingers in the home of the Industrial Revolution. By and large, a theoretical, classical or professional education is still likely to bring greater prestige and earning power than a training in applied science or technology. Even many science students go on to commercial or financial careers.

Of the 630 members of the House of Commons, scores are lawyers or accountants; only two are chartered engineers. By contrast, France promotes engineers and technologists through prestigious polytechnic schools and then gives them a greater say in industry and government. This enables the French to absorb and develop ambitious technological projects such as its growing network of high speed trains or its project to put small computer terminals hooked up to telephones in millions of homes.

The Science and Engineering Research Council, through which funds are distributed to the various research institutions, has devoted 60 percent of its current budget of £366.28 million to basic "curiosity driven" science, and 40 percent to strategic science, com-

portion of its budget dedicated to pure science should not drop below 40 percent.

Engineers and technologists welcome the increasing emphasis on applied science as a long-needed corrective to a past concentration on theoretical research.

"The trick is to get the balance right," said Geoffrey Atkinson, a deputy secretary of the Fellowship of Engineers, the younger equivalent of the Royal Society. "We have been very good at primary science in this country. We have had a lot of Nobel prize winners, a lot of inventions. But we have not been very good at translating that into industrial products for sale around the world."

"We've got to replace the old industries," Mr. Atkinson said. "What matters is industrial production and exports and if you can get that right, if you get your economy right, then you can earn the money to put back into scientific research."

DURING the parliamentary debate on the engineering industry last week, John Butcher, the under secretary of state for trade and industry, said Britain must recruit its cleverest students into engineering or risk decline against international rivals.

"There is industrial and commercial warfare in the international market," he said. "We are now locked in this open competition and we cannot fight the battle without the assistance of the brightest and best of our youngsters in the front line of business, earning orders for the United Kingdom, making and selling things in the international market."

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Technology

The Saga of the Seikan Tunnel

By Roy Garner

TOKYO — Tokyo's Ueno station was besieged by thousands of railroad fans on March 13, anxious to witness departure of the 4:50 P.M. "Hokuto" sleeper express.

The reason for the excitement was the train's destination, Sapporo, for this was to be the first direct run from Tokyo, on Japan's main island of Honshu, to the northern island of Hokkaido, traveling via the newly commissioned Seikan tunnel. Nearly 34 kilometers (21 miles) in length, it is the world's longest undersea railroad tunnel.

The opening of the Seikan bore is only the first major engineering success in Japan this year, the second being the inauguration on April 10 of the Seto Ohashi bridge, a 13-kilometer chain of tracks across the Inland Sea to link Honshu with Shikoku, another of Japan's four main islands.

Both of these massive construction projects were conceived amid the heavy optimism of the 1960s, when providing fixed links among Japan's main islands seemed well within the nation's capabilities.

The Seikan tunnel, in particular, has since attracted widespread criticism. The availability of inexpensive air travel and the straggled finances of the national railroad network have made the outlay of 1.1 trillion yen (\$8.5 billion) on a rail link to a sparsely populated region appear almost reckless.

The Seto bridge project, meanwhile, has not been accompanied by any clear regional development plan, nor a highway infrastructure, and critics foresee huge traffic jams when the bridge starts to channel the expected horde of sightseers onto Shikoku's primitive road system.

But the controversies have not diminished the technological achievements involved in the two projects. The tunnel is now widely recognized as one of the greatest achievements in tunnel engineering history.

The Seikan tunnel makes the forthcoming English Channel tunnel project appear modest in terms of overall scale and technical difficulty. Whereas the English Channel substrate provides generally ideal tunneling conditions, Japan's engineers have had to overcome both a complex geological tangle and the requirement to provide trans-

Boring beneath turbulent seas.

tolerances capable of withstanding the region's frequent earthquakes.

The tunnel was envisaged by the Japanese Imperial Army about 55 years ago, but geological surveys of the seabed beneath the stormy Tsugaru Strait only began in 1953. Researchers used sonic-wave, magnetism, artificial-earthquake and seabed-boring methods, but the complexity of the topography and strong currents of the strait made a comprehensive survey impossible.

When engineers of the Japan Railroad Construction Corp. began tunneling work in 1964, they had to rely on the drilling of pilot bores to check the strata that lay ahead. Construction of the main tunnel, with an approximately 11-meter (36-foot) diameter, and a smaller parallel service tunnel of 4 to 5 meters in diameter, proceeded a mile or so behind the pilot shaft.

What the pilot tunnelers discovered was a combination of silt, buff, shale and intermingled volcanic rocks, which often contained huge volumes of water. Major geological faults were encountered on nine occasions. In two instances, in 1976 and 1977, such faults were responsible for sudden flooding.

Difficulties such as these led to the Seikan tunnel's high accident record of 34 workers killed and more than 700 injured. The problems reached a peak during 1977, when it took four months to move forward just 40 meters.

The basic tunneling approach was to drill up to a mile ahead, using small-diameter rods, as a topography check. Next, a special grout, consisting of cement and liquid glass in roughly equal proportions was injected up to 70 meters forward at a pressure approximately four times that of the surrounding undersea ground water pressure. The grout solidified within about five minutes, after which excavations were resumed for a distance of 48 meters.

In the trickiest sections near the center of the tunnel, the full injection process alone took up to 20 days.

Despite all the difficulties, however, the advance rate for the tunnel was approximately 2 kilometers per year.

Although designed to handle dual Shinkansen "bullet train" tracks, the tunnel is currently only equipped to handle conventional trains. This will allow a cut of five hours in the present traveling time between the two islands, using train and ferry. But the future link now rests upon an August 1988 budget decision by the government on possible extension of the Shinkansen line from the south, which at the moment terminates in Morioka, about 200 kilometers short of the tunnel mouth.

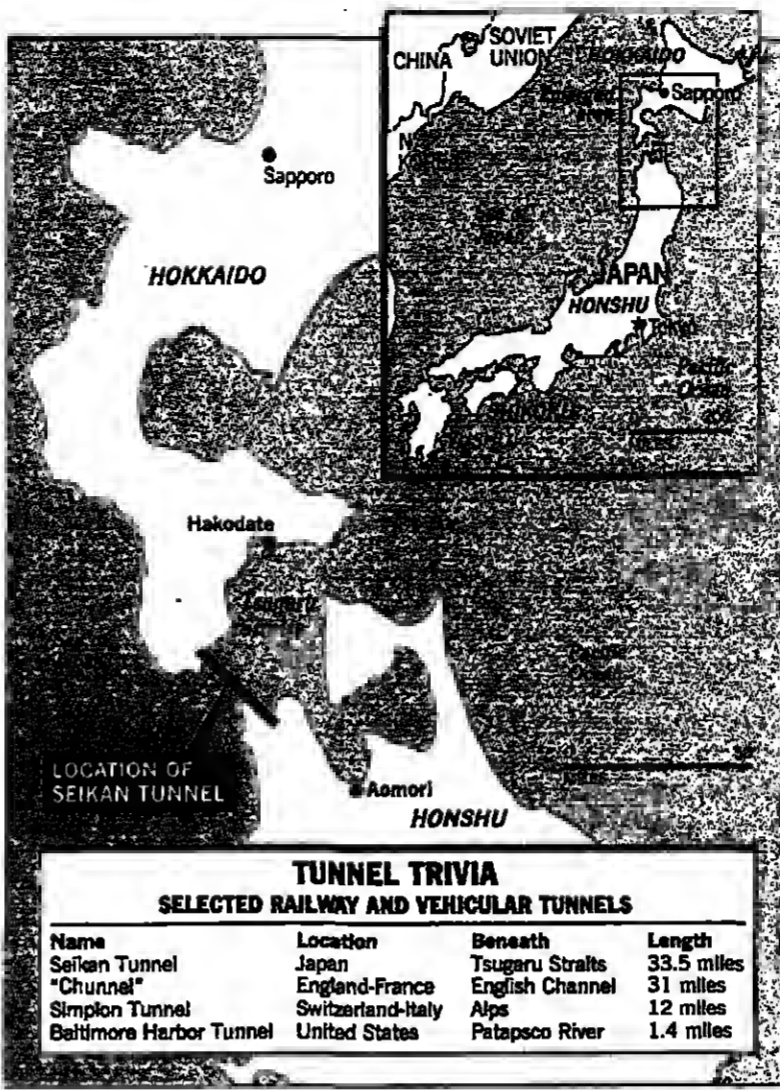
The Seto Ohashi bridge, which actually consists of three suspension bridges, four cable-stayed and truss bridges and four viaducts straddling five small islands of the Inland Sea, is another monument to engineering that is unlikely to see its full potential realized. It, too, has been constructed to form part of a future Shinkansen network.

The bridge expressway is expected to handle 25,000 cars per day and the availability of direct access to Shikoku will undoubtedly transform commerce in the region.

The chief problems facing engineers again concerned the elements. The bridge has been built to withstand earthquakes of up to magnitude 8 on the Richter scale, typhoon wind speeds of up to 50 meters per second and the swift tidal currents for which the Inland Sea is noted. In addition, engineers have had to provide super-tough paints and extensive maintenance equipment to cope with corrosive sea air.

With Shinkansen trains expected to run at speeds of up to 160 kilometers per hour (ordinary trains will reach 120 kilometers an hour), technical problems arose over preventing deformation of the suspension bridge spans. A transition girder system was adopted which allows expansion and angular bending at the point where the tracks pass onto the bridge.

Caissons were used in the construction of the massive anchor blocks laid down at depths of up to 30 meters in the straits. With fast tidal currents placing restraints on the timing of concrete pouring, a mortar-mak-



ing barge was specially constructed for the purpose, capable of pumping up to 500 cubic meters of concrete per hour.

The Seto Ohashi bridge system came with a price tag of 13 trillion yen, mainly covered by government borrowings. It has the world's fifth longest suspension span — the 1,100-meter Minami-Bisan-Seto bridge. But this, the Kojima-Sakaide route, is only the first of three bridge routes for Shikoku.

By 1998, the Kobe-Naruto link should be in place. Among its spans will be the Akashi Kaikyo suspension bridge, at 1,990 meters almost half a kilometer longer than the current record-holder spanning the Humber estuary in northern England.

ROY GARNER, a journalist based in Tokyo, specializes in technology.

NOTEBOOK

Keeping an Eye On the Competition

MUCH to the chagrin of their U.S. competitors, dozens of foreign companies are financing projects at universities and other research institutions in the United States.

For example, Hoechst A.G., the West German chemical company, sends about \$6 million a year to the molecular biology department of Massachusetts General Hospital in Boston. In return, Hoechst has the right to market any findings.

In return for similar rights, Tohoku Corp. of Japan has contributed \$5.5 million to the University of Arizona for the study of digital radiography, which allows physicians to look inside a patient's body on a video screen without using X-rays.

Some U.S. industry executives argue that the United States is subsidizing foreign competitors by allowing such arrangements. Also, some U.S. companies say it is not fair to allow foreign companies, especially the Japanese, to have access to laboratories in the United States when American companies do not enjoy the same access in their countries.

The exact amount of foreign investments in U.S. universities is not yet known. But universities, now required by law to inform the federal government of foreign investment in research projects, are to issue their first reports in June. (NYT)

A Bio-Tech 'Bug'

THE latest news from the detergent industry's never-ending war on stains is that biotechnology has produced an enzyme that will split fatty acids. This means that those troublesome gray spots that won't come out in the laundry may finally yield.

Novo Industri, the Danish enzyme maker, this month begins marketing a detergent enzyme made with biotechnology techniques using the aspergillus bacterium, found in fungi. Novo officials said their product, named Lipolase and being manufactured at a plant in Japan, was the first fat-splitting detergent enzyme to be available at prices and quantities attractive to detergent manufacturers. The company says Lipolase will give detergent manufacturers "new product opportunities." (NYT)

How One Company Mobilized To Develop a Test for AIDS

By Jacques Neher

PARIS — Last December, a small strip of molded plastic smeared with French biotechnology helped American doctors detect the first person in the United States infected with HIV-2, the second AIDS virus, which had been discovered less than two years earlier.

The patient, a woman from a West African country, did not have any of the known risk factors associated with AIDS, or acquired immune deficiency syndrome, the fatal disease that attacks the body's immune system. The presence of the virus had also not been detected by tests used since 1985 to screen out the more common HIV-1 virus.

"This was a very dangerous case," said Dr. Christian Poliard, president of Diagnostics Pasteur, the company that developed the test for the HIV-2 virus. "Theoretically, it was possible for this woman to donate her blood and thereby infect many others with AIDS without ever being detected," he added.

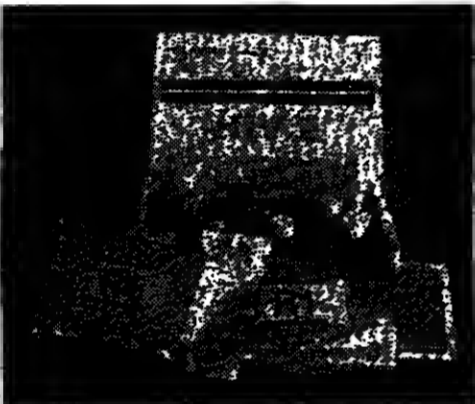
The HIV-2 test, currently marketed in several European and African countries, has yet to be approved by the U.S. Food and Drug Administration.

But Diagnostics Pasteur — a joint venture between the Pasteur Institute and France's second largest pharmaceutical company, Sanofi — is optimistic that this woman's case will help it receive quick approval to distribute the product, Elavia HIV-2, in the United States.

Elavia HIV-2 is the only commercially available test for the HIV-2 virus, though Dr. Poliard acknowledges that many of his competitors are working on similar products.

Pushed by competitive pressures, Diagnostics Pasteur was able to develop Elavia HIV-2 in record time — only 13 months after the HIV-2 virus was discovered.

"They were quick off the mark," said Andrew Tivnan, a pharmaceutical industry analyst with



Test kit by Diagnostics Pasteur.

employee company. The service groups specialize in various biotechnology fields, such as growing cells, recombinant protein, peptides and antigens.

The concept behind the AIDS test is relatively simple. It seeks to indicate the existence of the virus in a blood sample by detecting antibodies, which are normally produced several weeks after a virus is introduced in the body.

The test kit is composed of a plastic strip with two wells. One well is coated with a biochemical solution that includes an extract of lymphocytes, or white blood cells, bearing the lab-cultured HIV-2 virus. The other well, designed as a control, is coated with identical cells that have not been infected with the virus.

In a test, part of the blood sample is poured in both wells. If the blood is carrying the HIV-2 virus and, therefore, its antibodies, those antibodies will begin reacting with antigens of the lab-produced virus in the first well. The reaction, aided by certain enzymes, causes the well to turn a yellow-orange within three hours.

If the blood sample is healthy, there would normally be no color change. However, up to 3 percent of normal blood samples may carry nonspecific antibodies not linked to the AIDS virus. These antibodies could react with the lymphocyte cells themselves, also causing a yellowish coloration.

To prevent misreading this result as positive, the control well is used. The nonspecific antibodies would cause the same coloration in the control well, indicating that they, not the HIV-2 antibodies, caused the reaction.

Only if there were a significant difference in the color density in the two wells could doctors conclude that the blood sample actually was carrying the HIV-2 AIDS antibodies and, therefore, the AIDS virus.

The control well reduces the chance of false positive readings from 0.5 percent to 0.15 percent.

Dr. Poliard is secretive on exactly how the product was developed, noting that patents are pending on all facets of the manufacturing process, including a patent on the HIV-2 virus itself.

However, he revealed that researchers had to overcome several major obstacles to develop the test. They had to learn how to cultivate the HIV-2 virus after discovering that it did not grow nearly as easily as the HIV-1. Then came the task of purifying the virus after it was grown in the culture.

There was also the problem of deactivating the virus, actually killing it, while still preserving its ability to spark an immunological reaction when exposed to a blood sample carrying the AIDS antibodies.

Because of similar properties of the two AIDS viruses, tests for the HIV-1 can detect the presence of the HIV-2 in 70 percent of the cases, researchers say. However, that leaves a 30 percent chance that the virus would go undetected, thus creating demand for specific HIV-2 screening tests for clinics and blood banks.

The market for Elavia HIV-2, which sells for the equivalent of \$3 to \$4, will largely be a function of the virus's spread. Outside of Africa, where it is believed to have originated, HIV-2 has been detected in Portugal, Spain, Italy, France, Sweden and several South American countries.

Currently, the size of the market for HIV-2 tests is around 5 percent of the \$150 million worldwide market for HIV-1 tests.

JACQUES NEHER, a business journalist based in Paris, contributes regularly to the International Herald Tribune.



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'They were quick off the mark'

James Capel & Co. in London. "Diagnostic products normally take 18 months to two years to develop."

The product's rapid creation, Dr. Poliard said, resulted from the successful blend of commercial demands and the company's proximity to a storehouse of AIDS-related research at the Pasteur Institute. The institute first identified the HIV-2 virus and shared credit with U.S. researchers for the discovery of the HIV-1 virus.

"We have a special organization," he said. "There are no barriers between basic and applied research. We send our people to the Pasteur Institute and they send their people to us. We don't lose information and we don't lose time."

He said that this cross-pollination permits near elimination of the usual transfer period — the time normally required to move from scientific discovery to commercial application.

The physical distance is also eliminated, as the joint venture company is situated in the heart of the Pasteur Institute's compound at Garches, outside Paris.

Commercial incentives are used at the laboratory to encourage effective teamwork. Dr. Poliard said that a significant portion of the money earned by members of a research team is tied to a bonus system that rewards that team's success and speed.

However, perhaps most important in Elavia HIV-2's development was the fact that Diagnostics Pasteur had immediate access to the populations infected with the virus, principally in Africa. The Pasteur Institute maintains 27 research facilities around the world.

"An AIDS test must be tested, and you can't do that without infected blood samples," noted a spokesman for F. Hoffmann-La Roche, the Swiss competitor of Diagnostics Pasteur. "Pasteur has good relations in Africa and that has provided Diagnostics Pasteur with plenty of blood samples. It will take us much longer to get these samples."

According to Dr. Poliard, Diagnostics Pasteur needed only two months to develop a prototype test once the virus was isolated.

A project was given to a six-member team that could call on various "service" groups within the 500-

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Technology

Siemens, Philips Challenge Big 2

By Ronald van de Krol

AFTER five years of feverish and costly joint research, Siemens AG and Philips NV are poised to give Japan and the United States a run for their money in the race to market large quantities of a new generation of "submicron" chips.

The West German and Dutch electronics companies — Europe's largest — hope to start commercial submicron production by the middle of next year, putting themselves in a position to prevent Japan and the United States from totally dominating this strategically important new market.

"It's always been our goal to have the technology to proceed with commercial production by mid-1989, and Philips still expects to reach this goal," said Cor Vreven, a Philips spokesman in Amsterdam.

Philips and Siemens, normally competitors in the field of integrated circuits, decided in 1984 that they would have to pool their research resources if they wanted to catch up with efforts by Japanese and U.S. competitors to build submicron chips.

When Philips and Siemens began their joint research, they were estimated to be as much as two years behind in submicron technology. Now, inward the end of a research effort costing about 1.5 billion guilders (\$790 million) industry sources estimate that this time lag has been reduced to a year or less.

Although the two European partners may still find that a Japanese or U.S. competitor beats them to the market, Philips and Siemens believe their own chips will be ready in time to profit from the high prices that the chips will command in their early years in the 1990s.

"The market potential for these chips is huge. There will be so many different types and so many different applications, that demand will not be restricted to the coming one or two years but will extend far into the future," Mr. Vreven said.

The submicron chip, which is also known as a megachip, is a tiny integrated circuit with a gigantic memory ranging from one to four million bits of information (one megabit or four megabits).

The chip is based on submicron technology. In other words, the size of each of its constituent parts is smaller than a micron, which in turn is equivalent to one-thousandth of a millimeter or one-hundredth the diameter of a human hair.

The megachip itself is slightly smaller than a human finger nail, contains six million to eight million transistors and can store enough information to fill six pages of newspaper text.

Under the terms of their chip partnership, Siemens and Philips are working closely together on the scientific and research aspects of submicron technology, but they will go their separate ways when they reach the production and marketing stage.

In fact, the two companies are actually concentrating on two distinct kinds of chips. Philips is working on a one-megabit chip with a static random access memory (SRAM) that will be used mainly in consumer and car electronics and in telecommunications, Siemens

will be ready then too," a company spokesman in Munich said.

Philips, based in the town of Eindhoven, has two factories under construction — one in the Dutch town of Nijmegen, another in Hamburg. It has also recently opened a chip design center and a chip technology center in Limburg. Together, the investments will cost the company around 2 billion guilders.

These costs come on top of the 1.5 billion guilder bill for submicron research, which is being split three ways between Philips, Siemens and a joint subsidy from the Dutch and West German governments.

The staggering expense of research into new chip technology has increased so sharply during the 1980s that it is difficult for companies to keep up, especially European companies which already lagged behind the industry leaders in the United States and Japan.

European electronic groups like Siemens and Philips need to stay abreast of one-megabit and four-megabit technology if they are to compete in the 1990s in the development of more powerful, more inflexible chips. For example, the 16-megabit and 64-megabit chip

While Philips is Europe's largest producer of integrated circuits, it ranks 10th worldwide behind Japanese and U.S. manufacturers. Europe's combined share of the world market for integrated circuits is only about 10 percent compared to nearly 50 percent for Japan and 40 percent for the United States.

For these reasons, European firms will probably need to work together even more closely as technology advances toward the creation of chips made up of smaller and smaller parts.

Although the Philips-Siemens partnership will formally end when commercial production of one-megabit and four-megabit begins next year, it is likely to be extended in some other form to include, perhaps, other European companies.

Mr. Vreven said that major European companies and scientific research institutes were currently drawing up a plan to prepare industry for the chip technology of the 1990s. They hope to have their blueprint ready sometime this year, including an estimate of how much money the next round of research will cost the companies and their national governments.

RONALD VAN DE KROL is a journalist based in Amsterdam.

The companies decided in 1984 they would have to pool research resources.

Synchrotrons Are Joining the Chip Race

Continued from page 9

enough or whether the Germans or Japanese are going to get a long lead on us."

Scientists in the United States pioneered many of the technologies being exploited today around the world to perfect X-ray lithography.

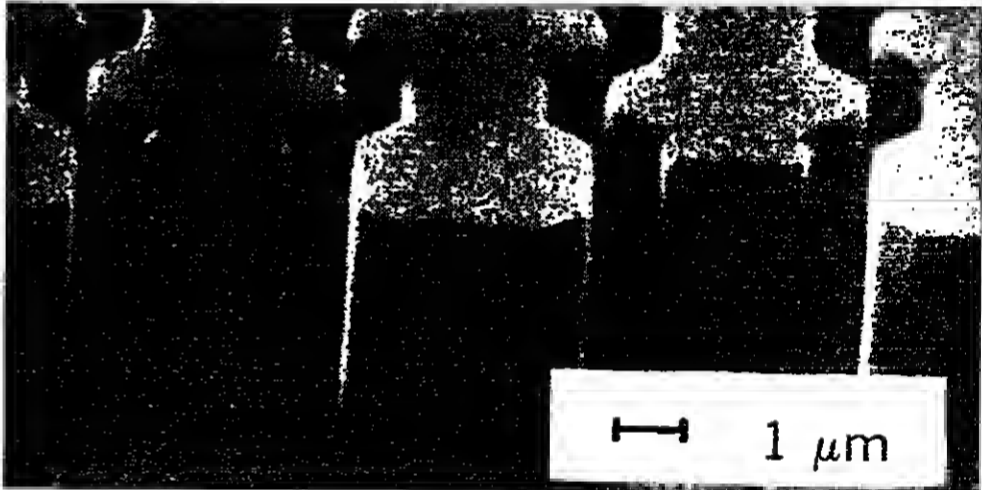
Until now, light has been the key to chip-making in a process known as photo lithography. First, large drawings are made of complex patterns for tiny circuits, and then these drawings are drastically reduced in size and transferred onto a tiny mask like a photographic negative. Finally, bright light shining through this mask etches circuits atop silicon wafers coated with photo-sensitive chemicals.

As circuits have become smaller over the years, it has been necessary to use light with ever-shorter wavelengths to maintain sharpness in circuit features. (The length of the waves of light have to be smaller than the chip features they are trying to etch.) Chip makers have now pushed past the visible part of the electromagnetic spectrum into the ultraviolet region and cannot progress further with conventional methods.

The smallest features of the best chips are about one micron in size, or one-hundredth the diameter of a human hair. The goal in X-ray lithography is to reduce features to possibly as small as one-tenth of a micron.

"There are increasing problems as you shrink dimensions," said Alan D. Wilson, manager of chip lithography for IBM's Watson Research Center in Yorktown Heights, New York. "The billion-dollar question" is how to go beyond the problems to perfect a new chip-making process.

One way is to exploit some of the smallest wavelengths — those of X-rays. The problem is that the right kind of X-rays, "soft" ones close to the ultraviolet region, are



A microscopic view of an IBM test etching done with X-ray lithography. The one-micron line is about one-hundredth the width of a human hair.

difficult to produce. The X-rays used by doctors and dentists are too "hard," their wavelength being so short that they tend to pass through matter rather than reacting with it.

Soft X-rays for the tiniest circuits will probably come from one of the biggest devices of all: the circular atom smashers that can stretch miles.

The key insight began as a nuisance. Several decades ago, particle physicists noticed that whirling electrons emitted radiation that interfered with experiments. The principle behind the problem was simple. Whenever electrons are forced to change speed or direction, they give off electromagnetic radiation, such as light or X-rays.

In the 1970s, researchers realized this phenomenon had enormous research potential and soon began building the circular synchrotrons to shed radiation rather than smash atoms. In effect, they were giant light bulbs.

Today, several generations of X-ray synchrotrons have been

built at universities and U.S. laboratories, mainly for studying the structure of molecules. But industry scientists, especially those at IBM, have also used these sites to pioneer X-ray lithography. Since 1980, IBM has worked at the Brookhaven National Laboratory near Upton, New York, most recently on a synchrotron about 50 feet (15 meters) in diameter.

One question is whether these sprawling machines can be made small and cheap enough so that companies can use them in factories for X-ray lithography.

West Germany and Japan have already embarked on table-top synchrotrons about six feet in diameter. IBM has contracted to have a 20-foot prototype machine built at its chip factory in East Fishkill, New York, reportedly at a cost of \$15 million.

Such compact machines would depend on ultra-strong superconducting magnets to guide speeding electrons in tight circles. These magnets require demanding, super-cooled technology that some

U.S. researchers fear will be difficult for industry to master.

Michael Knoke, chairman of the National Synchrotron Light Source project at the Brookhaven National Laboratory, said that industry should build both "warm" and "cold" synchrotrons for X-ray lithography.

"The Japanese are going both routes," he said. "We need to do that too."

Japan's Ministry of International Trade and Industry reportedly plans to spend \$700 million this year to aid in the design and building of a working X-ray lithography system. Analysts say that chip makers around the world may want to buy 100 to 150 of the small synchrotrons in the next decade at a cost of about \$10 million each.

Since 1986, Brookhaven has held five workshops for American chip makers to discuss synchrotrons and X-ray lithography and has produced two prototype designs for compact synchrotrons.

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Japanese Culture and Scientific Research

Continued from page 9

diversity and the development of an "inquisitive culture" are the necessary conditions for developing contemporary science. We can also conclude that Japan will confront great difficulties in developing an original and creative scientific establishment.

Consensus-building, the submission of the individual to the team and respect for hierarchy are characteristics of the Japanese system. Furthermore, Japan is the least diverse large country in the world from a cultural and ethnic point of view.

While it might be said that these factors undermine invention, it can be concluded that these same Japanese characteristics can help in innovation rather than hinder it. Fluid communication and teamwork are vitally important in orchestrating complex processes and turning an idea into a marketable product.

A mind-set that expresses itself in organizational behavior, structures and systems can help shorten product and process development, remove the barriers between research and marketing, between development and production, and in the process increase the

chances that innovations will succeed in the marketplace.

The question is whether, in the further development of science, the historical pattern will hold true, or whether we are facing a transition from individualistic discovery to teamwork.

An indication that we may be headed that way lies in the decreasing number of single-author scientific papers. More and more papers are authored by teams. A more balanced process seems to be emerging and if this is so, Japan could be better equipped to handle new scientific and innovative processes than might seem to be the case.

Another consideration is that diversity today can be measured on a global rather than a national or regional scale. Furthermore, the free flow of information means that most technical knowledge, particularly of a scientific nature, is now being transferred across borders and is available to everybody.

Additionally, since there is no inherent reason why scientific knowledge needs to be conducted in a purely national context, more and more people of all nationalities are gravitating to postgraduate studies at centers of excellence regardless of where they are located.

One can conclude that perhaps the relative

position of countries in the development of basic science is less important than their capacity to innovate and their ability to create wealth out of technical as well as conceptual knowledge.

On the corporate level, a growing number of companies are running into a scarcity of managerial and technical talent. This is forcing them to recruit internationally, and this is where familiarity with the world's cultural diversity becomes a distinct advantage.

It is in this context that the homogeneity of Japan becomes a hindrance because it makes it difficult to absorb foreign talent. In the same connection, as new technology and market trends increase the complexity of new products, understanding the cultural characteristics of such markets and their social diversity is essential.

Thus, the formidable challenge for Japan lies more in its own cultural traditions and the way they are expressed in Japanese enterprises than in the country's ability to develop science. Managers, scientists, academics, policy-makers and corporations will have to fully understand cultural differences in the global economy, for these can affect business in unexpected ways.

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Encouraging creativity... Panasonic Office Automation

Herald Tribune

BUSINESS/FINANCE

with advanced technology Panasonic Office Automation

WEDNESDAY, MARCH 16, 1988

Page 13

MADISON AVENUE

General Mills Hires Kids To Interview Other Kids

By BRUCE HOROVITZ

LOS ANGELES—Most grown-ups know General Mills Inc. as a maker of breakfast cereals. But many children don't know General Mills from General Grant. These same kids, however, are very familiar with the names of its breakfast cereals, such as Cocoa Puffs and Count Chocula, and its toys, like Play Doh and Strawberry Shortcake.

"Kids are becoming more brand-conscious, more media-conscious, and more vocal."

Advertising aimed at children has long been controversial because it seems to prey on the naivete of youngsters as consumers. But advertisers say that the opinions of children can mean the life or death of some products.

THE QUIZ becomes a game to see what the youngsters remember and what they like or dislike. "We think we know what we mean when we say something in an ad," Miss Welander said.

Générale Investors To Meet

Board Schedules April 14 Face-Off

By William Glaberson

BRUSSELS—Société Générale de Belgique SA, the target of a two-month takeover battle, said Tuesday it would hold a long-awaited meeting of its warring shareholders on April 14.

Both sides had requested the shareholders meeting. Mr. de Benedetti, who announced a hostile bid for effective control of the company in mid-January, says that he and his allies hold around 48 percent of the shares, assuming that all outstanding warrants are exercised.

On the agenda at the meeting will be a proposal by Cerus, Mr. de Benedetti's French investment firm, that he and his leading Belgian allies, the executives Andre Leysen and Pierre Scobier, be appointed to Générale's board.

Waging the War Over Wages

How GE and a Union Agreed to Cut Pay and Save Jobs

By William Glaberson

NEW YORK—FORT WAYNE, Indiana—They make motors here at General Electric Co.'s aging plants on Taylor Street and on Broadway, and they want to keep making them. They like to say they are the best motor makers in the world.



A wire mill in Fort Wayne, Indiana, run by General Electric Co.'s motor division. Inset: David C. Genever-Watling, the division's chief, who proposed that GE seek pay concessions.

This is the story of why, beginning next month, GE workers here and in nine cities in nearby states will earn less every hour than they do now. It is a story that could be about any one of a hundred gritty, old American manufacturing businesses struggling to compete in the 1990s. It is a story about bitter choices.

Last month, after GE said wages were too high to keep its motor business competitive, workers in Fort Wayne voted more than 2 to 1 to save their jobs and accept a pay cut. "Everybody has choices in life," said Jim Deighans, a local union leader. "Sometimes the choices you have are kind of bad."

Workers at many foreign motor plants, including GE's own, earn one-tenth the amount that American companies pay at home. "There's a bunch of guys in Thailand, Korea and Brazil who get up every morning and try to figure out how to eat your lunch and take your market share, and you've got to deal with it," said David C. Genever-Watling, the motor division's chief.

When the division's 7,250 workers accepted a cut of \$1.20 from their \$11 hourly wage, GE promised to pour \$200 million into domestic motor plants. The pace in the electronics business. "If let's all face reality together" is a current theme in industrial America, GE's implementation of it in Fort Wayne is a case study in its execution.

RepublicBank, Hit by Bad Debt, Seeks U.S. Aid

By William Glaberson

DALLAS—First Republic Bank Corp., the biggest independent banking company in Texas, said Tuesday it would seek federal assistance as it wrestles with billions of dollars in bad real estate and commercial loans.

Bank officials said they would hold preliminary discussions with the Federal Deposit Insurance Corp. to restructure and recapitalize the Dallas-based company. The bank, which holds about \$25.5 billion in doubtful loans, posted a loss of \$65 million last year.

The decision to approach the FDIC is, in our judgment, important to providing a stable environment for First RepublicBank's customers," said Gerald W. Fronterhouse, the firm's chairman and chief executive officer. Mr. Fronterhouse and the company's board were meeting Tuesday. As First RepublicBank struggled with the bad loans, depositors have grown increasingly uneasy about the bank's future.

its loan problems, particularly real estate loans. "We are taking every possible measure to serve the best interests of our customers while maintaining our efforts to revitalize the financial institution, which is important to Texas," he said.

"We will continue to serve the needs of our customers without any disruption," he said. "Manageable our program to address the problems of our troubled real estate loans will move forward."

First RepublicBank officials attempted last month to contact regulators that the bank was considering merging with another financial institution. The bank purchased full-page newspaper advertisements to assure customers that their deposits were safe. "I think in light of everything that has happened over the last month, it's not surprising to see this," said Frank Anderson, an independent bank industry consultant in Dallas.

Currency Rates

Table with columns for City, Currency, and Rate. Includes entries for Amsterdam, Brussels, Frankfurt, London, Milan, New York, Paris, Tokyo, Zurich, and ECU.

Table with columns for Currency, Per \$, and Rate. Includes entries for Australian dollar, Austrian schilling, Belg. franc, British pound, Canadian dollar, Chinese yuan, Danish krona, Ecu, French franc, German mark, Hong Kong dollar, Indian rupee, Indonesian rupiah, Irish pound, Italian lira, Japanese yen, Kuwaiti dinar, Mexican peso, New Zealand dollar, Norwegian krone, Saudi riyal, Singapore dollar, South African rand, Spanish peseta, Swiss franc, Taiwan dollar, Thai baht, Turkish lira, U.S. dollar, U.S. dollar, U.S. dollar, U.S. dollar.

Table with columns for Currency, Forward Rates, and Rate. Includes entries for Pound sterling, Japanese yen, Deutsche mark, and Canadian dollar.

Interest Rates

Table with columns for Eurocurrency Deposits, Term, and Rate. Includes entries for 1 month, 3 months, 6 months, and 1 year.

Table with columns for Key Money Rates, Term, and Rate. Includes entries for Discount rate, Federal funds, Call money, 3-month Treasury bill, 6-month Treasury bill, 3-month CD, and 6-month CD.

Table with columns for U.S. Money Market Funds, Term, and Rate. Includes entries for Discount rate, Lend/borrow rate, Overnight rate, 1-month interbank, 3-month interbank, 6-month interbank, and 1-year interbank.

Table with columns for Gold, Term, and Rate. Includes entries for Gold, 1-month, 3-month, 6-month, and 1-year.

Automakers In U.S. Post Gain in Sales

DETROIT—Led by a healthy jump in purchases of Ford Motor Co. vehicles, domestic sales of U.S.-made cars and light trucks rose 6.3 percent in early March 1987, automakers reported Tuesday.

But the industry leader, General Motors Corp., did not share the strong increases enjoyed by Ford and Chrysler Corp. Despite sales incentives, GM's domestic car sales fell 13 percent in early March from a year earlier, and its light-truck sales dropped 1.5 percent, the automaker reported.

Despite the addition of new mid-size models, GM's domestic car sales fell to 95,372 from 97,487 a year ago. GM's light truck sales fell slightly to 42,489, or 4,721 a day, from 38,327, or 4,790 a day, in early March 1987.

Ford said its combined domestic car and light-truck sales were the highest for early March since 1979. Domestic car sales jumped 21.4 percent to 68,859 in early March from 50,407 a year ago. The company's light truck sales rose 18.1 percent to 46,073 in early March from 34,685 a year ago.

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Vol.	High	Low	Last	Chg.
Allegis	102 1/2	79 1/2	79 1/2	+1/4
Amgen	102 1/2	79 1/2	79 1/2	+1/4
Amstar	102 1/2	79 1/2	79 1/2	+1/4
Amtrak	102 1/2	79 1/2	79 1/2	+1/4
Amstar	102 1/2	79 1/2	79 1/2	+1/4
Amstar	102 1/2	79 1/2	79 1/2	+1/4
Amstar	102 1/2	79 1/2	79 1/2	+1/4
Amstar	102 1/2	79 1/2	79 1/2	+1/4
Amstar	102 1/2	79 1/2	79 1/2	+1/4
Amstar	102 1/2	79 1/2	79 1/2	+1/4

NYSE 4 p.m. volume	121,700,000
NYSE 4 p.m. close	2,826.17
NYSE 4 p.m. volume	121,700,000
NYSE 4 p.m. close	2,826.17
NYSE 4 p.m. volume	121,700,000
NYSE 4 p.m. close	2,826.17
NYSE 4 p.m. volume	121,700,000
NYSE 4 p.m. close	2,826.17
NYSE 4 p.m. volume	121,700,000
NYSE 4 p.m. close	2,826.17

High	Low	Close	Chg.
Composite	102 1/2	79 1/2	+1/4
Industrial	102 1/2	79 1/2	+1/4
Transport	102 1/2	79 1/2	+1/4
Utilities	102 1/2	79 1/2	+1/4
Finance	102 1/2	79 1/2	+1/4

Tuesday's NYSE Closing
Via The Associated Press

Class	Prev.	Chg.
Advanced	102 1/2	79 1/2
Declined	102 1/2	79 1/2
Unchanged	102 1/2	79 1/2
New Issues	102 1/2	79 1/2
New Lists	102 1/2	79 1/2

Close	Chg.	Week Ago	Year Ago
Composite	102 1/2	79 1/2	+1/4
Industrial	102 1/2	79 1/2	+1/4
Transport	102 1/2	79 1/2	+1/4
Utilities	102 1/2	79 1/2	+1/4
Finance	102 1/2	79 1/2	+1/4

Vol.	High	Low	Last	Chg.
Amgen	102 1/2	79 1/2	79 1/2	+1/4
Amstar	102 1/2	79 1/2	79 1/2	+1/4
Amstar	102 1/2	79 1/2	79 1/2	+1/4
Amstar	102 1/2	79 1/2	79 1/2	+1/4
Amstar	102 1/2	79 1/2	79 1/2	+1/4

Class	Chg.
Bonds	+0.18
Utilities	+0.20
Industries	Unch.

Class	Prev.	Chg.
Advanced	102 1/2	79 1/2
Declined	102 1/2	79 1/2
Unchanged	102 1/2	79 1/2
Total Issues	102 1/2	79 1/2
New Issues	102 1/2	79 1/2
New Lists	102 1/2	79 1/2

Month	Buy	Sales	\$'s
March 16	20,296	41,888	4,554
March 15	24,520	53,242	8,710
March 14	24,520	53,242	8,710
March 13	24,520	53,242	8,710
March 12	24,520	53,242	8,710
March 11	24,520	53,242	8,710
March 10	24,520	53,242	8,710
March 9	24,520	53,242	8,710
March 8	24,520	53,242	8,710
March 7	24,520	53,242	8,710
March 6	24,520	53,242	8,710
March 5	24,520	53,242	8,710
March 4	24,520	53,242	8,710
March 3	24,520	53,242	8,710
March 2	24,520	53,242	8,710
March 1	24,520	53,242	8,710

Open	High	Low	Last	Chg.
Index	2826.17	2826.17	2826.17	+0.24
Transp.	177.23	177.23	177.23	+0.08
Comp.	743.22	743.22	743.22	+0.08

High	Low	Close	Chg.
Industries	102 1/2	79 1/2	+1/4
Utilities	102 1/2	79 1/2	+1/4
Transport	102 1/2	79 1/2	+1/4
Finance	102 1/2	79 1/2	+1/4
NYSE	102 1/2	79 1/2	+1/4

Class	Prev.	Chg.
Advanced	102 1/2	79 1/2
Declined	102 1/2	79 1/2
Unchanged	102 1/2	79 1/2
Total Issues	102 1/2	79 1/2

High	Low	Close	Chg.
Index	2826.17	2826.17	+0.24
Transp.	177.23	177.23	+0.08
Comp.	743.22	743.22	+0.08

Tables include the nationwide prices up to the closing on Wall Street and do not reflect late trades elsewhere.

12 Month	High	Low	Stock	Div.	Yld.	PE	52	High	Low	Close	Chg.
25%	14	10	AAR	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAI	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAO	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAU	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAV	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAW	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAZ	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAA	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAA	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAA	0.12	10.5	13	268	10	10	10	+

NYSE Mixed in Slow Trading

NEW YORK — Prices on the New York Stock Exchange turned in a lethargic performance Tuesday as prices closed mixed in slow trading.

Traders said the market was held in check by concern over forthcoming economic data.

The Dow Jones industrial average, which rose 15.09 Monday, fell 2.66 to close at 2,047.41. Some late buying allowed the index to trim an 11-point decline registered earlier in the day.

Advances, however, edged declines by a narrow margin. Volume totaled 133.17 million shares, up slightly from 131.89 million traded on Monday, which was the slowest session so far this year.

Broader market indexes slipped. The New York Stock Exchange composite index fell 0.07 to 149.99. Standard & Poor's 500-stock index fell 0.24 to 266.13. The price of an average share lost 1 cent.

"The breadth of the market is a little bit better than Monday," said Tom Gallagher, managing director of capital commitment at Oppenheimer & Co.

Mr. Gallagher said there was some life in the transportation and utility sectors, but "big stocks" such as IBM and Digital Equipment, continued to "act horribly."

"The secondary issues are still leading this market," he said.

"There is a lot of weakness in certain sectors," Mr. Gallagher said. "Everybody believes this is a wait-and-see game ahead of the trade numbers. I think it's just a continuation of a slow environment."

His view runs contrary to other analysts, who believe investors have temporarily stepped to the sidelines ahead of the January report on the U.S. merchandise trade deficit, set for release Thursday.

"The trade numbers would have to have a dramatic change to impact the market. I just don't think people are sitting around waiting," Mr. Gallagher said. "There's lots of concern."

The 48-point drop last Thursday "has people thinking we are not out of the woods yet," he said.

As far as Friday's triple expiration of stock-index futures and options, a potentially volatile time, Mr. Gallagher expects it to be "a convulsion."

Allegris was the most active issue, up 1/4 to 79 1/2.

Several airline stocks were higher based on signs of strong passenger traffic. Allegris is the parent of United Airlines.

Monsanto followed, off 3/4 to 80 1/4.

First Republic Bank was third, down 1/4 to 114. The largest independent bank in Texas said it was holding discussions with the Federal Deposit Insurance Corp. to restructure and recapitalize the bank.

AT&T was up 1/4 to 28 1/2.

IBM was off 1/4 to 114. Digital Equipment was down 2/4 to 116 1/4.

Other airline stocks posting gains included AMR, parent of American Airlines, up 1/4 to 41 1/4, and Delta Air Lines, up 1/4 to 47 1/4.

Among other blue chips, General Electric was unchanged at 43 1/4, American Express was down 1/4 to 26 1/4.

12 Month	High	Low	Stock	Div.	Yld.	PE	52	High	Low	Close	Chg.
25%	14	10	AAI	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAO	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAU	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAV	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAW	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAZ	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAA	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAA	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAA	0.12	10.5	13	268	10	10	10	+
25%	14	10	AAA	0.12	10.5	13	268	10	10	10	+

(Continued on next left-hand page)

BUSINESS ROUNDUP

Hongkong Bank's Profit Rises 17%

HONG KONG — Hongkong & Shanghai Bank reported Tuesday that its net profit climbed 17 percent last year to 3.59 billion Hong Kong dollars (\$460.3 million) as its traditional banking operations "improved significantly" in the colony and Southeast Asia.

aside \$600 million in provisions during the year for losses on bad or doubtful loans.

Hongkong & Shanghai said it has transferred its share of those loan-loss provisions to inner reserves and that they had no impact on 1987 profit. The bank said that overall, it transferred 1.18 billion dollars from inner reserves and 300 million dollars from retained profits last year to its debt reserves.

VW Sales Rose 3% in '87 But Foreign Revenue Fell

WOLFSBURG, West Germany — Volkswagen AG reported Tuesday that its provisional group sales rose 3 percent to 54.5 billion Deutsche marks (\$32.83 billion) in 1987, from 52.8 billion DM in 1986, although foreign sales fell.

Early Response To Saudi Share Offer Subdued

RIYADH — Saudi Arabian investors placed orders for more than 1.7 million riyals (\$450 million) of shares on the first day of the kingdom's first public stock flotation for three years, bankers said Tuesday.

Husky to Press Texaco Canada Bid

By John F. Burns New York Times Service TORONTO — In a proposal that would make Li Ka-shing, the Hong Kong real estate investor, a major player in Canada's oil and gas industry, Husky Oil Ltd. of Calgary, Alberta says that it will press forward with a bid to acquire Texaco Canada Ltd., the Canadian unit of the financially troubled Texaco Inc.

Canada's 120.8 million common shares outstanding would give the company a value of 4.1 billion Canadian dollars.

Since the Li investment in December 1986, which was valued at about 1.5 billion Canadian dollars, Husky executives have made no secret of their interest in expanding their interest in acquiring Texaco Canada.

MILLS: Interviewing Kids

(Continued from first finance page.) The ad agencies Young & Rubicam and Foote, Cone & Belding, both agencies create ads for Colgate.

Alitalia Seeks Alliances to Stay Competitive

ROME — Alitalia is seeking international alliances to ensure a leading position in an increasingly competitive global industry, the Italian national airline's chairman, Umberto Nordio, said Tuesday.

fact that they must be reduced to the size of a local carrier, or else they must come to some sort of agreement between themselves," Mr. Nordio said.

moves by the European airline industry to forge alliances.

Accounts

Century Importers, a Baltimore-based beer importer whose brands include Kronenbourg from France; Beamish Cream Stout from Ireland; and John Courage from England, went to Truhim, Burden & Charles of Baltimore.

National Westminster To Expand in Spain

LONDON — National Westminster Bank PLC said Tuesday that its Banco NatWest March unit will acquire 84 percent of Banco de Asturias, a retail bank with 63 branches in Spain's northern provinces of Asturias and Leon.

BNP INTERBOND FUND DIVIDEND PAYMENT NOTICE (COUPON N° 4) As of March 18, 1988, coupon n° 4 detached from shares of "BNP INTERBOND FUND" will be payable at the counters of BNP (Luxembourg) S.A.

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B.S.L. BUSINESS SCHOOL LAUSANNE SATURDAY M. B. A. Indigo Takeoff Supermarket's parent, Sultan Graphics (owned by the Indigo Index Fund) has climbed from \$100 to \$110 since the crash of the oil market.

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ALLIANCE: In a Bitter Choice, Workers at General Electric Accept Company's Proposal to Cut Wages and Save Jobs

(Continued from first finance page) decisions came pretty close to the mark.

GE said it wanted the workers to give up \$2 an hour. Otherwise, in the words of the script, the company would have to "shrink, close or sell" the motor business. They were words many of the workers would not forget. "They're threatening my life; my job is my life," Gregory A. Sprinkle remembers thinking. He has worked at GE's wire mill for 22 years.

Underlining the seriousness of the message, the company announced at the same time that two plants — in Holland, Michigan, and Decatur, Indiana — would be closed no matter what happened. "You just sat there and it left an empty, kind of cold feeling," said Mr. Daughtry, the business agent for the Fort Wayne local of the International Union of Electronic Workers.

For decades, GE has been making electric motors to run everything from small appliances to computer disk drives. The division turns out 32 million motors a year, more than any other manufacturer, and contributes about \$700 million to GE's \$40.5 billion in annual revenue. But by the time Mr. Genever-Walling, a GE vice president, arrived in the fall of 1986, the motor division had gotten itself into a classic business problem.

In the early 1980s, there was a \$3 billion domestic motor market. By 1986, it had fallen to about \$2 billion, as foreign manufacturers went after GE and its longtime rival, Emerson Electric Co. The biggest challenge came from so-called "indirect imports," finished products such as air conditioners produced overseas with motors already in them.

In response, GE says, U.S. manufacturers got into a destructive

price war. GE's motor sales were shrinking, so were profit margins. Sales dropped to \$710 million from \$766 million in 1984 at a time when the division had projected revenue of \$890 million. "We were busy falling off a cliff," Mr. Genever-Walling said. The division's return on sales was sliding toward 2 percent, well under the 6 percent that GE averages in its low-tech manufacturing businesses.

It was time for an unpleasant dose of reality, and Mr. Genever-Walling was willing to administer it. Born in Wimbledon, England, the 42-year-old division chief speaks with a refined British accent that seems distinctly out of place in Fort Wayne. But after 20 years with the company, in a series of management posts with the armaments and aircraft-engine divisions, he is thoroughly GE.

The one thing he was not was gentle. To fix the business, Mr. Genever-Walling figured, he needed an investment of about \$200 million from GE. But he says he also knew that under GE's chairmanship, John F. Welch Jr., corporate headquarters would not be in much of a mood to listen to his plan if the division did not cut costs and close plants to bring up its profits.

Ever since he took the helm at GE in 1981, Mr. Welch has been brutally un sentimental about the old businesses that built GE into the United States' third most valuable corporation in shareholder value.

The chairman has repeatedly declared that GE's businesses must be No. 1 or No. 2 in their markets or they will be gone. He has closed or sold many, including the company's housewares business and its consumer electronics unit. At the same time, under his tenure, GE has bought some decidedly non-smokestack businesses: RCA, with



A GE worker, Annette Brooks: "Take it, or you don't have a job."

its NBC television network, and Kidder, Peabody & Co., the Wall Street firm.

For Mr. Genever-Walling, the numbers did not look encouraging in the fall of 1986. His division was still a strong No. 1 in its market, but profits were shrinking.

He cut management costs and made what he called early savings he could in late 1986 and early 1987. But he said the time had come to face the issue that neither corporate headquarters in Fairfield, Connecticut, nor motor-division managers had been willing to tackle: labor costs. They accounted for 26 percent of division costs, a greater percentage than in many other GE businesses.

For years, GE had been paying higher rates than Emerson, its non-union rival. GE figures Emerson



Gregory Sprinkle, another veteran: "They're threatening my life."

Without competitive wages, Mr. Genever-Walling felt, the division would have to move much of its production abroad or the company would lose patience entirely with its utterly unglamorous division.

"The future of this business was at stake in terms of GE's ownership," he said.

Back at headquarters, Mr. Genever-Walling's proposal to ask for wage concessions raised major policy questions.

GE has always discussed contract terms every three years with a coalition of 12 unions that represent 67,500 of the company's 90,000 domestic production workers. The motor division workers, like all GE employees, had received the raises won in the national pact. Executives knew it could be extremely sensitive to ask the unions

down our position until we're out of the manufacturing business," Mr. Doyle said.

So despite the risks, the motor division initiative was approved in early October. GE's top negotiator, William Angell, privately notified William H. Bywater, president of the International Union of Electronic Workers, about the motor division's plans. Launch day was set.

When it came, the company set up videocassette players in cafeterias and other meeting centers. In a taped speech, Mr. Genever-Walling outlined the pessimistic analysis. The scripts then helped plant managers cover the rest of the ground.

The managers talked about the businesses GE had closed. The point was that the company, was not bluffing, and the script hammered it home: "I'm sure employed in those businesses, all now without GE jobs, which they would have had the chance to save their jobs, sacrifice now for gains later — rather than having lost it all," it said.

The shock only lasted a little while. Then a sense of realism settled in. In a 10-year period, the motor division workers had seen their numbers shrink from 12,600 to 7,250 as the company closed operations and moved others overseas.

The locals said they would go along with a wage freeze that would take the motor division out of the next national GE contract, but they would not budge from their "take away" position. The company offered to phase in its pay cuts over time, but still insisted on a \$2-an-hour reduction.

Mr. Hofmeister said that when he got back to Fort Wayne after a

meeting on Jan. 14, when the local seemed permanently stalled, told Mr. Genever-Walling that "the motor business is done as we know it."

Mr. Bywater, the union president, called Mr. Angell, GE's chief negotiator. The two agreed to meet in New York with only their deputies present.

In New York and at a second meeting in Washington on Jan. 21, the two men went to each other. The company came down in demand, at first to \$1.60 and then to \$1.40.

Mr. Bywater said he would not accept an unprecedented GE promise of job security. GE would not get that kind of pledge, Mr. Angell said.

Mr. Bywater offered an alternative: What about a job-security plan with an escape clause that would let workers opt out of the plan if their orders shipped? Done, Mr. Angell said.

They finally had a handshake job security. A \$1.20-an-hour (to be phased into the \$200 million investment and a promise to store cost-of-living raises in 1989. There was also a deal for more bonuses, if profits improve.

Mr. Bywater had just one more problem, he said: He wanted Mr. Welch to guarantee personally that GE would not try to separate out divisions from the national contract in the 1988 negotiations, five days later, he says. Mr. Welch said that pledge in a phone call.

On Feb. 18, the workers approved the deal, 2,240 to 941.

The first of four cuts of 20-cent an-hour will show up in paychecks on April 1. But a lot of things have already changed at the plant. Fort Wayne

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 Tuesday: International Stock Markets
 Wednesday: Madison Avenue
 Thursday: International Manager
 Friday: Wall Street Watch
 Saturday: Economic Scene
 Tuesday through Saturday: Currency Markets
 Personal Investing on the second Monday of every month.
 And the latest financial figures every day.

CURRENCY MARKETS

Dollar Ends Higher as Pound Falls

NEW YORK — The dollar ended higher on Tuesday, boosted by reports of a... The pound had bounced to as high as 3.0950 Deutsche marks...

London Dollar Rates

Table with columns: Currency, Unit, Mar. 16, Mar. 15. Rows include Deutsche mark, Japanese yen, Swiss franc, French franc.

against the dollar, which was sidled down for most of the day in Europe... The pound closed at \$1.8560, against \$1.8525 on Monday.

Pound's Rise Is Defended By Greenspan

WASHINGTON — Britain, in the face of market pressure, was correct to allow the pound to rise above 3 Deutsche marks...

Egypt's Currency Crackdown Hits Foreign Banks

CAIRO — Once, it used to be said, there were as many black market currency dealers on the streets of Cairo as taxi drivers...

exists, with a rate of about 2.34 to the dollar. Since last May's reforms, many foreign banks have closed offices, cut staff and, in some cases, pulled out of Egypt altogether.

retrenchment among foreign banks in Egypt. New lending is at a low ebb since banks now often only grant hard currency loans if they are fully collateralized from abroad.

U.S. Municipal Bond Market Collapse Feared

LOS ANGELES — Some municipal bond experts and investors are warning that a decline may be starting already...

volatile tax-free money-market funds. There are some indications that a decline may be starting already, Mr. Norton said...

municipals harder than many other securities because tax-free bonds are held in large numbers by affluent individual investors...

largely Salomon Bros., formerly the largest municipal bond dealer. But others minimize the chances of a repeat of last year's nose dive...

TRADE: U.S. Deficit Surged to \$160.7 Billion in '87

(Continued from Page 1) government's official accounting will not be made until June. Alan Greenspan, chairman of the Federal Reserve Board...

because many of the older U.S. investments are earning a higher rate of return. However, the services surplus was down from \$18.6 billion in 1986...

federal government's need to borrow billions of dollars each year to cover the shortfall between revenues and spending attracted large sums of foreign investment...

Singapore Link To U.S. Delayed

SINGAPORE — The Stock Exchange of Singapore said that a plan to link automated securities markets in Singapore and the United States on Tuesday had been postponed for the third time.

Table with columns: Stock, Div. Yld., High, Low, 4 P.M. Close. Includes various stock listings.

Table with columns: Stock, Div. Yld., High, Low, 4 P.M. Close. Includes various stock listings.

Table with columns: Stock, Div. Yld., High, Low, 4 P.M. Close. Includes various stock listings.

Table with columns: Stock, Div. Yld., High, Low, 4 P.M. Close. Includes various stock listings.

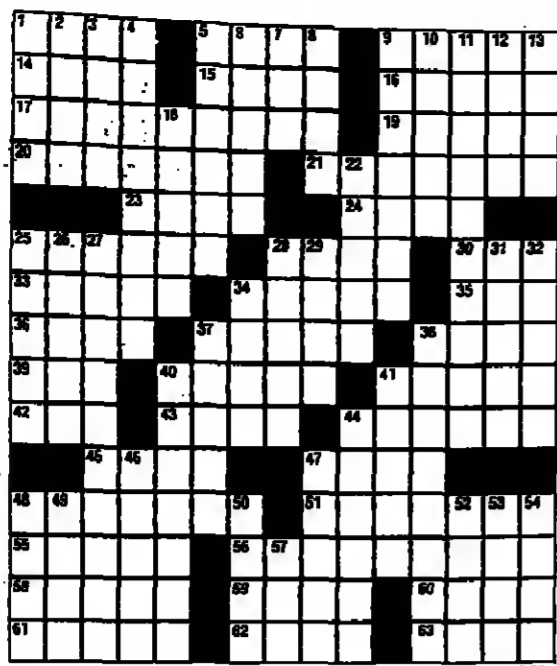
Table with columns: Stock, Div. Yld., High, Low, 4 P.M. Close. Includes various stock listings.

Table with columns: Stock, Div. Yld., High, Low, 4 P.M. Close. Includes various stock listings.

Table with columns: Stock, Div. Yld., High, Low, 4 P.M. Close. Includes various stock listings.

Table with columns: Stock, Div. Yld., High, Low, 4 P.M. Close. Includes various stock listings.

PERSONAL INVESTING IN THE 11TH SECOND MONDAY OF EACH MONTH... AN ESSENTIAL GUIDE TO OPPORTUNITIES AND PITFALLS WORLDWIDE



ACROSS

1 U.S. priest-poet
John Banister

5 Channel changer

9 "Celtic Twilight" author

14 Cosmetic plant

15 Sea eagle

16 Brass or pewter

17 Irish moss

19 Synthetic fabric

20 Wordsworth's "..."

21 French forest

23 S-shaped molding

24 Heine's "..."

25 Charlotte, N.C.

28 Musical mode

30 The way in Chinese philosophy

33 Apertures

34 Denmark's "..." islands

35 Keats subject

36 Mild expletive

37 Gambol

38 "Trinity" author

39 He wrote "The College"

40 King with a golden touch

41 Green chalcid

42 Dry, as champagne

43 Yemeni port

44 Transfer a lease

45 That Ferrara family

47 Thomas Edison

48 What Muses do

51 Wreak destruction, in distix

55 Flowers for a sehorita

56 Of Greek and Roman antiquity

58 Presses

59 Port of Cork

60 Greek letter

61 Twilled fabric

62 Simple painter

63 Garden in Genesis

DOWN

1 Savoir-faire

2 Jai

3 Né

4 Writer Brecht and name-sake

5 Academic distinction

6 Byzantine empress

7 One, to Burns

8 Chanteuse

9 Chinese river

10 Author of "The Cast of Helth"

11 Like health foods

12 Fast Jet

13 "Aur Lang

18 Auspices family

22 Beard eraser

25 Tapestry

26 Fort, Fla.

27 Previous incumbent

28 Kind of varnish

29 A lover of Aphrodite

31 Spring

32 Assault

34 Grow dim

37 Fruit drink

38 Clifty

40 "La Desserte"

41 Painter—de Chavannes

44 Like partly melted snow

46 Smack-dab

47 Mideastern people

48 Zeus's messenger

49 The—Cicero

52 Made a perfect

53 London art gallery

54 Verve

57 Mauna

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DENNIS THE MENACE



"WHADDA YA MEAN 'MRS OLIVIA PAMPERS HERSELF'? SHE WEARS DIAPERS?"

JUMBLE

Unscramble these four Jumbles, one letter to each square, to form four ordinary words.

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GOWAN

KALIA

PHEPOR

Now arrange the circled letters to form the scrambled word GAME.

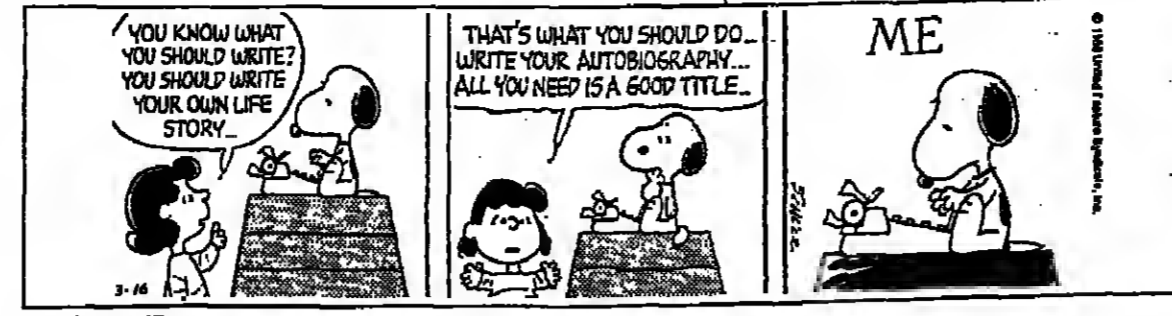
Print answer here: _____

Yesterday's Jumble: GLADE ELOPE HUMBLE BURIAL
Answer: Another name for the divorce court—THE HALL OF BLAME

WEATHER

EUROPE		ASIA		NORTH AMERICA	
High	Low	High	Low	High	Low
Algeria	10-16	Beijing	10-16	Atlanta	10-16
Amsterdam	10-16	Bombay	10-16	Boston	10-16
Antwerp	10-16	Calcutta	10-16	Chicago	10-16
Berlin	10-16	Delhi	10-16	Dallas	10-16
Bombay	10-16	Hong Kong	10-16	Denver	10-16
Buenos Aires	10-16	Kobe	10-16	Detroit	10-16
Cardenas	10-16	London	10-16	Houston	10-16
Cebu	10-16	Manila	10-16	Los Angeles	10-16
Colon	10-16	Osaka	10-16	Miami	10-16
Hankow	10-16	Seoul	10-16	Minneapolis	10-16
Hong Kong	10-16	Tokyo	10-16	Montreal	10-16
Kobe	10-16			New York	10-16
London	10-16			San Francisco	10-16
Los Angeles	10-16			Seattle	10-16
Miami	10-16			Toronto	10-16
Manila	10-16			Washington	10-16
Montreal	10-16				
New York	10-16				
San Francisco	10-16				
Seattle	10-16				
Toronto	10-16				
Washington	10-16				

PEANUTS



"YOU KNOW WHAT YOU SHOULD WRITE? YOU SHOULD WRITE YOUR OWN LIFE STORY..."

BLONDIE



"FIRST YOU OVERSLEPT! YOU BOLTED DOWN YOUR BREAKFAST! AND THEN YOU CRASHED INTO YOUR MAILMAN! HOW DID YOU KNOW ALL THAT?"

BEETLE BAILEY



"NICE PARTY, MY GIRL. DID YOU SEE THAT DRESS ON MINE? MY GIRL WAS REAL SWEET..."

ANDY CAPP



"HUIH! WHAT A DATE! WHAT MANNERS! OH, BERRY DAWLIN! HERE YOU ARE, I'LL HAVE THE SPORTS SECTION..."

WIZARD OF ID



"BAD NEWS, WIZARD. THE KNOB'S BEST MILK COW JUST DROPPED DEAD! ...HOW AM I GOING TO TELL HIM? JUST SAY, THE GOOD LORD DECIDED TO RETIRE HIS JERSEY..."

REX MORGAN



"I'LL TAKE LINDA DOWN TO THE RADIOLOGIST'S OFFICE FIRST THING IN THE MORNING, DR. MORGAN! ...I'M GOING TO WORK IN THE MORNING, MOTHER! I'LL MAKE IT A POINT TO HAVE THE X-RAY TAKEN HOUR! ...CALL ME THE DAY AFTER YOU HAVE THE X-RAY, LINDA? I SHOULD BY THEN! ...THANK YOU FOR COMING, ME, DOCTOR!"

GARFIELD



"A PHILOSOPHER ONCE SAID, 'I THINK THEREFORE I AM' ...POOR ODIE, HE ISN'T AWARE THAT HE DOESN'T EVEN EXIST..."

BOOKS

WOODCUTTERS
By Thomas Bernhard. Translated from the German by David McLinock. 181 pages. \$15.95. Alfred A. Knopf, 201 East 50th Street, New York, N.Y. 10022.
Reviewed by Michiko Kakutani

"ONE actually finds most people uninteresting, I thought, all the time—almost all the people we meet are uninteresting, having nothing to offer us but their collective mediocrity and their collective imbecility, with which they bore us on every occasion, and so naturally we have no time for them. If we look back, I thought, we see that they have quite automatically made themselves ludicrous and uninteresting in their thousands, their tens of thousands, their millions."

These sentences, which occur about two-thirds of the way through the hero's nonstop monologue, are pretty representative of the sentiments and attitudes running through "Woodcutters," the latest work of fiction to be published in the United States by the Austrian poet, playwright and novelist Thomas Bernhard. The winner of three covered literary prizes in West Germany, Bernhard has earned considerable acclaim in Europe as one of post-war Austria's most distinguished men of letters, and his work (among his novels already published in English are "Gargoyles," "The Lime Works," "Correction" and "Concrete") consistently gives us a distinctive if limited view of the world.

It's a dark, misanthropic view of things that focuses obsessively on death, suicide, the wasting effects of time and the isolation of the individual. A stream-of-consciousness soliloquy (distracted by a better word), "Woodcutters" takes place during a lengthy dinner party in Vienna as the narrator, a disaffected writer who watches the other dinner guests from his observer's post in a wing chair, gives us an account of the evening's events. He describes the host (a composer who was supposed to be "the successor of Webern" but who has ended up a sot) and his wife (a fawning socialite who

Solution to Previous Puzzle

T	H	A	I	N	T	A	C	H	E	M	D	R	A
I	O	N	I	A	R	A	I	D	A	L	I	A	
P	U	T	T	I	N	O	N	T	H	E	R	I	T
R	E	A	L	I	S	T	S	L	E	V	E		
G	O	T	U	P	E	D	E	N	S				
I	R	A	N	T	T	B	A	R	K	I	M		
B	E	G	I	N	T	H	E	R	E	G	I	N	
E	L	S	P	R	E	F	S	I	S	L	A	M	
B	L	A	S	E	A	P	A	R	E	D	I	N	
S	I	N	G	I	N	I	N	I	T	R	A	I	
E	R	I	E	O	L	D	I	E	S	M	I	L	
N	E	E	D	D	O	S	S	T	A	L	L	I	

BRIDGE

By Alan Truscott

West led a heart to the queen. South decided his hopes on finding West's diamond guard, but South should have passed the heart ten as partner's four no-trump bid, but he surged on to six no-trump.

Prospects were bleak when

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Prospects were bleak when

Zurich		Tokyo		Singapore		Stockholm		Sydney	
High	Low	High	Low	High	Low	High	Low	High	Low
Alkerm Chemical	1030	Alkerm Chemical	1030	Alkerm Chemical	1030	Alkerm Chemical	1030	Alkerm Chemical	1030
Alkerm Chemical	1030	Alkerm Chemical	1030	Alkerm Chemical	1030	Alkerm Chemical	1030	Alkerm Chemical	1030
Alkerm Chemical	1030	Alkerm Chemical	1030	Alkerm Chemical	1030	Alkerm Chemical	1030	Alkerm Chemical	1030

World Stock Markets
Via Agence France Presse Closing prices in local currencies, March 15

Amsterdam		London		Paris		Stockholm		Sydney	
High	Low	High	Low	High	Low	High	Low	High	Low
ABN Bank	49.50	AA Glys	187.00	Alkerm Chemical	1030	Alkerm Chemical	1030	Alkerm Chemical	1030
ABN Bank	49.50	AA Glys	187.00	Alkerm Chemical	1030	Alkerm Chemical	1030	Alkerm Chemical	1030
ABN Bank	49.50	AA Glys	187.00	Alkerm Chemical	1030	Alkerm Chemical	1030	Alkerm Chemical	1030

WEDNESDAY'S FORECAST - CHANNEL: Choppy. FRANKFURT: Rainy. TEMPE: 10-16. LONDON: Showers. TEMPE: 10-16. MADRID: Fair. TEMPE: 10-16. NEW YORK: Cloudy. TEMPE: 10-16. PARIS: Rainy. TEMPE: 10-16. PORTLAND: Partly cloudy. TEMPE: 10-16. SAN FRANCISCO: Partly cloudy. TEMPE: 10-16. SEATTLE: Partly cloudy. TEMPE: 10-16. TOKYO: Partly cloudy. TEMPE: 10-16.

SPORTS

One More Time: Some Charity for A Chronic Giver

International Herald Tribune LONDON — How much does sport owe its grand masters fallen...

ROB HUGHES

Rob Hughes is on the staff of the Sunday Times. He has written a column about the life of John Charles, a Welsh goal-scoring legend.



No gift of gab, but height, heft, speed and stunning power—in his playing prime, John Charles had it all.

his memory in awe. Tell him how Boniperti, rich and influential, still cherishes their old partnership, and he says: "Ah, I appreciate that."

He is a man who has raised four strapping sons, all of whom with his blessing preferred the more sociable game of rugby. His nephew, Jeremy Charles, was reared in his image as an international center-half and center-forward, but was

cheated in his prime by horrendous knee injury. The uncle had escaped that pitfall. He had had more chances than most, in and out of soccer. But before you denounce the uselessness of John Charles, know where he was the night he got out of prison—playing snooker to raise cash, as he has most weekends for 25 years, for such causes as kidney machines.

6 Cities Courting NFL Owners

By Gerald Eskenazi New York Times Service PHOENIX, Arizona — A new football, a new instant-replay gimmick, a new jacket and even a new city were offered to National Football League owners Monday...

people, and say, 'Hey, our city's interested.' So are Jacksonville, Florida; Memphis, Tennessee, and the California cities of Sacramento and Oakland.

The owners' work began Tuesday with a 26-0 approval (there were two abstentions) of the shift of the Cardinal franchise from St. Louis to Phoenix.

The recommendations will be voted on later in the week by the entire membership. For now, however, its attention is being diverted by such things as Rawlings trying to get the NFL to adopt the sporting goods manufacturer's new ball — the ST-5 Soft Touch model.

Iran, Iraq, Despite War, Aim to Compete in Seoul

By Michael Janofsky New York Times Service NEW YORK — Despite the recent intensity of their war, which has continued for more than seven years, Iraq and Iran still intend to participate in the Seoul Olympics later this year.

Seven months ago, U.S. hammer thrower Bill Green was stripped of the silver medal he won at the Pan American Games for testing positive for steroid use.

The results of the test stood, with Green receiving the standard sanction, a lifetime suspension that could be reviewed in 18 months. In any case, he was effectively removed from any attempt to make the U.S. Olympic team.

Green's appeal will be based on testimony of doctors involved with the test. "We have basically three areas of concern," said William Mitchellson, a lawyer representing Green.

Britain Keeps Budd on Team

The Associated Press LONDON — British track authorities on Tuesday rejected international pressure to withdraw Zola Budd from next week's world cross-country championships...

In the light of the fact that no evidence has been forthcoming from the IAAF concerning Miss Budd's activities in South Africa during 1987, and her assurances regarding allegations...

The African council told the IAAF that Budd should be barred from violating bans on sporting contact with her homeland, reportedly at a cross-country meet last June in Brakpan and at the awards ceremony of a meet on New Year's Eve.

With anti-apartheid demonstrators lining the course, she finished third in the British cross-country trials earlier this year and was picked for the Auckland team.

Transition

WASHINGTON — Announced last Paul Larhous, special teams coach, will become a permanent member of the staff.

MIAMI (FLORIDA) — A report to terms with Jimmy Johnson, football coach, on a two-year contract extension through 1992.

NEW YORK — The IAAF announced it would join Zimbabwe in boycotting the event if Budd takes part.

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Baseball's Rules Committee Balking At Union Request to Delay Changes

By Murray Chass New York Times Service CLEARWATER, Florida —

With the start of the baseball season three weeks away, the proposed rule changes involving balks and the strike zone remain in limbo.

both feet on the ground when they came to the required complete stop with runners on base.

faith," Fehr said. "I don't feel they have bargained in good faith."

The committee has requested that the union, which must approve the changes before they can be implemented, give its final decision on the changes Tuesday.

Through Sunday's exhibition games, umpires had called 124 balks in 126 games, an average of virtually one a game, compared with a 1987 season total of 356 balks in 2,105 contests.

The proposal, though, was rejected by the four members of the rules committee who have been negotiating with the union: Bill Murray, the committee chairman...

SCOREBOARD

Basketball

Final College Polls table showing top 25 teams in the final Associated Press poll.

NBA Standings

NBA Standings table showing Eastern and Western Conference standings.

Hockey

NHL Leaders

NHL Leaders table showing scoring leaders and goalkeeping leaders.

NHL Standings

NHL Standings table showing Eastern and Western Conference standings.

1987-88 All-America Selections

1987-88 All-America Selections table listing top athletes in various sports.

Exhibition Baseball

Exhibition Baseball table showing results of various exhibition games.

Transition

Transition table listing coaching changes and other personnel moves.

NBA Leaders

NBA Leaders table showing top performers in various categories.

Individual

Individual table showing statistics for individual athletes.

Transition

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Advertisement for Blancpain Arfan watches, featuring a large image of a watch and text describing its quality and history.

OBSERVER

Three Men on an Eagle

By Russell Baker

NEW YORK — From time to time when the Romans couldn't decide which of three leaders they wanted to rule they fledged the problem by putting all three in office. These governments were called "triumvirates" from the Latin words "tri," meaning "three," "um," meaning "umbilicus," and "vir," meaning "man." Literally, then, a "triumvirate" was simply "three men on one umbilicus."

Since all three triumvirs had to share the same umbilicus, they were supposed to be equal and not behave as though one triumvir thought he was more important than another.

This was born the old Latin maxim, "Triumviri equalum esse, sed caveat secundus tertiusque." This maxim is almost untranslatable into English, which is why Congress voted not to have it printed on the dollar bill.

The Romans had many triumvirates. There was the famous First Triumvirate composed of Caesar, Pompey and Crassus. Then Rome had the magnificent Second Triumvirate composed of Octavian, Mark Antony and Lepidus.

This was followed by the immortal Third Triumvirate composed of Lactantius, Gorus and Dukakisorum. The word "immortal" is used with apologies. The scribe Broderius tells us that much of the triumvirate's first meeting was taken up with the choice of a fitting adjective.

In his famous passage which begins, "Necque unquam quid quidum quod usque erat Lactantius quique quam fit," Broderius records that Lactantius seized the gavel, pounded on the umbilicus and declared that their Triumvirate must have an adjective to match the glory of adjectives attached to earlier triumvirates.

There had been the "famous" First Triumvirate, and the "magnificent" Second, said Lactantius. "The Third must have an adjective that is neither too brassy nor too sassy, neither too loud nor too proud, neither too humbling for the poor nor too humbling for the sore, neither too dyspeptic for the skeptic nor too hectic for the apologetic, neither —"

The historian Appellidorus tells us that Dukakisorum, always quick to play the no-nonsense, can-do

triumvir ("semper fidelis in re scilicet ex uno ad docem"), horated as follows: "We see your point, Jesse. On a scale of one to 10, I'd give it an importance factor of about six and a half, so why don't we just call ourselves the immortal Third Triumvirate and get on with something important like how to cut the gladiator budget."

Then was Lactantius sore wroth. "Immortal," said Lactantius, was the adjective always applied to Hoagy Carmichael's "Stardust." He knew not what adjectives other triumvirs might desire, but as for him, he craved language untaunted by the smoky excess of the nightclub piano.

Gorus pronounced the umbilicus for attention, stating that in matters of popular music he would agree to nothing until the content of this widely publicized Hoagy thing ("res publica Hoagy") had been analyzed by his wife Triumvirate and declared free of double entendre, smut and disgusting words ("lingo licentio") such as "belly" and "drawers," which were depleting the spirit of Roman youth and creating an appalling decline in the sale of Girl Scout cookies.

Dukakisorum said on a scale of one to 10 he viewed the "immortal" and the "lingo licentio" problems as a two, certainly not more than a three, and urged Lactantius and Gorus to give him a free hand with the umbilicus ("carta blanca umbilicalis") so he could eliminate support payments to Christians idle more than two months waiting to be thrown to the lions.

Gorus agreed that Christians should not be given financial incentives for such squalid activities, but the great problem facing the triumvirate, he insisted, was creating a stupendously expensive anti-eloquent defense system around the entire Roman Empire.

Though Hannibal had been defeated centuries ago, the Cathaginians' sneak elephant attack from the Alps must never be forgotten. He, Gorus, had been in touch with the brilliant strategic-eloquent thinker, Gaius E. Teller.

A system of sensitive pachyderm detectors in place from Persia in the East to Bognor Regis in the West — Lactantius banged the umbilicus for attention. Dukakisorum said on a scale from one to ten —

New York Times Service

The Trials of Socrates and I.F. Stone

By Jim Naughton

WASHINGTON — The second floor of I.F. Stone's home is lined with the wisdom of the ancients. "This is my Greek and Latin library," he says, rising from behind a desk brimming with paperbacks, magazines and newspaper clippings. "I've got a thousand volumes."

"It's a good working library because I have all the Greek poets, all of Aeschylus, Sophocles, Euripides, Aristophanes. I have a Greek anthology, Sappho, Homer and all the philosophers and all the Latin poets and all the Roman historians and I have a lot of basic histories and commentaries."

He pulls a weighty tome from the top shelf, and lowers it onto his desk. "This is the first translation ever made of Plato," he says. "It was made in the Renaissance by a Florentine mystic. I found it in a bookstore in Washington, oh, about 20 years ago. Seventy-five dollars."

The pages are yellow and tattered. Stone turns them delicately and runs his finger beneath a tightly scripted line of Latin. "Nobody ever got away with such charming nonsense as Plato out of sheer charm, so it was a pleasure to get to the common sense of Aristotle. But then after you've been in Aristotle it's a pleasure to get back to the poetry of Plato because Plato is beautiful."

It has been 17 years since heart trouble forced Stone, now 80, to cease publication of his renowned newsletter, I.F. Stone's Weekly. He has spent most of his retirement in Athens — a fifth century B.C. Athens. The fruits of his sojourn are revealed in "The Trial of Socrates," a reexamination of the most famous free-speech case in history.

The book surfaced on The Washington Post's best-seller list when it was released in mid-January and has remained there for seven weeks.

The venerable radical is suddenly in vogue. While he was reconsidering Socrates, younger writers were reconsidering him and his contributions to postwar journalism. Pantheon has just published Andrew Patner's "I.F. Stone: A Portrait," and Little, Brown is releasing five of Stone's books in a series titled "A Non-Conformist's History of Our Times."

"So those are the rewards of old age," he says. "When you are younger you get blamed for crimes you never committed and when you're older you begin to get credit for virtues you never possessed. It even itself out."

His day begins with newspapers and a magnifying glass. Stone, who wears thick wire-rimmed glasses, has only one good eye and, on that one, a cataract is developing. "It takes me several hours to read The Post and The Times and I read them with

pleasure because that for me is like reading history unfolding. I read history like the daily paper. I read the daily paper like history."

When he stopped publishing the Weekly after 19 years, his ambition was to write a history of freedom of thought. That drew him, inevitably, to ancient Athens.

The mental challenges he faced seem much less formidable than the physical ones. Stone's eyesight has been deteriorating for years. He does much of his reading with the aid of a gift from Jerry Bruck Jr., who produced the 1973 documentary film "I.F. Stone's Weekly." The machine magnifies typescript several times and displays it on a television monitor.

Stone thought he would have to settle for writing a series of lectures until Little, Brown offered him a book contract and his daughter Celia told him of a word processor that could project letters in headline-size type.

"So I got me one and did four drafts and a fifth revision," Stone says. In 399 B.C. Socrates was sentenced to death for corrupting the young and dishonoring the gods of Athens. The decision, rendered by a slim majority of the 500 jurors, stood for ages as an argument against the tyranny of majority rule. "The more I fell in love with the Greeks, the more agonizing grew the spectacle of Socrates before his judges," Stone writes in his preface. "How could the trial of Socrates have happened in so free a society? How could Athens have been so untrue to itself?"

Stone set out "to give the Athenian side of the story, to mitigate the city's crime and thereby remove some of the stigma the trial left on democracy and on Athens." That meant portraying Socrates as he has seldom been portrayed before.

Plato presents Socrates as a secular saint, a wise man who sought only to clarify the thinking and puncture the pretensions of his fellow citizens. Stone, on the other hand, portrays him as a middle-class snob who neglected his wife, taught his followers a contemptuous cynicism and underestimated the interests of the city.

"I could not defend the verdict when I started," Stone writes. "I cannot defend it now." But, he adds, Socrates had a death wish. "Socrates needed the bleakness as Jesus needed the Crucifixion to fulfill a mission," Stone writes. "That mission left a stain forever on democracy. That remains Athens's tragic crime."

Isidor Feinstein Stone has never been much for naval contemplation. He has been a news junkie since he published his first paper, The Progress, at age 14. In the debut issue he attacked William Randolph Hearst, praised Mahatma Gandhi and quoted Sophocles.



I.F. Stone: "The long view of history."

He thought, at one point, that he might become a philosophy professor. This was shortly before he dropped out of the University of Pennsylvania in his junior year. But the academic life seemed so bloodless compared with newspaper work, which also offered an ambitious young man a way to make a living.

He spent more than 20 years reporting and writing editorials for a succession of liberal newspapers. But when the New York Daily Compass folded in 1952, Stone, 44, found himself unemployed and without funds.

"I couldn't get a job doing and saying what I wanted to say, so I started my own little flea-bit publication," he said then. With \$6,500 and the subscription lists from two defunct liberal dailies, he and his wife Esther began I.F. Stone's Weekly. The first issue in January 1953 was mailed to 5,300 subscribers who each paid \$5 a year.

The Red Scare was raging when the Weekly made its debut and Stone found himself ostracized from official Washington.

Stone attacked Joseph McCarthy and John Foster Dulles and questioned official accounts about the origins of the Korean War. Because his hearing was poor and he had no inside sources, Stone developed his stories by poring over documents, piecing together contradictions, showing one official version of the truth did not jibe with another.

Stone's "The Hidden History of the Korean War," published in 1952, questioned whether the United States and South Ko-

rea might have known about, or perhaps precipitated, the North Korean attack that began the war. It was published by a small left-wing publisher and blasted by reviewers before it disappeared from sight.

"All I wanted to call attention to were unanswered questions that are still unanswered. And then it also calls attention to the fact that some in the American military really welcomed the war."

"He was way ahead of the pack," says Bruce Cumings, professor of East Asian history at the University of Chicago and author of "The Origins of the Korean War." "His book has essentially been validated on a number of key points by archival documents that have come out in the past few years."

In the '60s Stone reaped the benefits of seeds sown many years earlier. The New Left adopted him as a hero and the circulation of the Weekly soared to 36,000. His integrity and enthusiasm had made him a cult figure.

He lives in a quiet, well-kept section of northwest Washington with Esther, his wife of 59 years. Their home is well-appointed, decorated with family photographs and Stone's honors.

No news affects Stone as deeply as the news coming from Israel and its occupied territories. Stone's writings on the Middle East remain his best known and most durable. He published "Underground to Palestine" in 1946. When it was reissued in the late 1960s, he added a new essay called "The Other Zionism," in which he advocates a binational state.

"I got in trouble for it," he says. "But a lot of the early pioneers were binationalists. It was a large minority in the Zionist movement who felt the test would be whether we could live as brothers."

These days he spends most of his time in his library on the second floor of his home. "It's not solitary because you are living with the living dead. All these people are not dead. These are all wonderful people. These Greek poets — every one of them is a human; Sappho in her jealousy and her passion is so alive."

Lately his studies have been interrupted by writers, photographers and television interviewers who ask him about the Greeks, old age, Ronald Reagan, whatever wisdom he cares to dispense. Most of his comments are variations on a theme, his faith in democracy.

"If you take a long view of history then you have the common man rising to equality and governing himself. There are pitfalls and backslides and dictatorships, but from a long-range point of view it's the rise of the common man. It's what's in the Declaration of Independence and the Constitution and in the Athenian way of life. It's been a steady march."

PEOPLE

Adopted Son of Reagan Tells of Troubled Youth

President Ronald Reagan and his wife, Nancy, are hopeful that their adopted son's book describing troubled childhood and family problems will help others in similar situations. A White House spokeswoman said Monday that Reagan's autobiography, "On the Outside Looking In," will be listed by Zebra Books. In an interview with People magazine, the adopted son of the president, he "didn't feel I belonged in a perfect family. I've spent my life trying to figure out how to fit in. Ronald Reagan my friend."

Reagan told Michael's book the weekend and called him a day to compliment him on it. "Mrs. Reagan's press secretary, Elaine Grimes, Michael, now describes how he was molested or photographed by a day-camp in the incident secret until last year. The book also contains past arguments between Michael, Nancy, Michael was adopted by Reagan was married to the late James Wynant."

David Bowie, Jennifer Bank and other Western rock group join Soviet musicians for a series of concerts intended to raise money for drug addiction, organizers announced. The concerts, originally scheduled for late this month, now slated to take place in April. The Novosti Press Agency said the three-hour concert was held at the 30,000-seat City Stadium in north Moscow. Agency did not say why the concerts were delayed, but so close to the organizers blame postponement on bureaucratic tape. John Lennon, the son of late Beatle John Lennon, and former Beatles George Harrison and Paul McCartney have been invited to perform, but it is unclear whether they would perform.

On April 19, Sotheby's of York will auction jewelry owned by Clare Boothe Luce, died last October at 84.

President Hafez al-Assad in Syria's first woman ambassador on Monday, officials said. She is masoud. Saba Nasser, 46, who the Syrian ambassador to Belgium she has been charged fares for the last two years.

Indict Poindexter Iran

TODAY'S INTERNATIONAL BUSINESS MESSAGE CENTER. Appears on page 18.

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